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1954-58 Fertilizer Figures Revealed in Government Report

Bureau of Census Shows Number of Employees on Decline; Pay Increases

WASHINGTON — Fertilizer manufacturers shipped products valued at $1,056 million during 1958, an increase of 5% over 1954, the U.S. Department of Commerce has announced. The figures, part of the 1958 census of manufactures, are preliminary, the report says, and are subject to later revision.

Employment in the fertilizer industry showed a decrease of about 2% during the same period, 1954-58. Some 31,000 employees were working in the trade during 1958.

Value added by manufacture in the industry amounted to $312 million in 1958, an increase of 15% from 1954 when the previous census was taken.

("'Value added' is derived by subtracting the cost of materials, fuels, etc. from value of shipments. It avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by others, and is for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas," the department explains.)

In enumerating further statistics on the industry, the report said that

(Turn to FERTILIZER, page 17)

India Invites Bids For U.S. Fertilizer

WASHINGTON—India has invited bids from the U.S. fertilizer industry to supply 80,000 long tons of ammonium sulfate and 24,000 long tons of urea. The bids will be accepted by the Secretary of the Ministry of Works, Housing & Supply, New Delhi, prior to June 8.

According to the Indian government request, the ammonium sulfate should be packed in new 100-kilo jute bags, and the urea in 50-kilo five-ply paper bags. Shipments are to be made as follows: 30,000 tons of ammonium sulfate and 8,000 tons of urea during June, with the remainder being shipped during January and February, 1961.

'Unsound Scientifically' . . .

Critical Report Issued By Presidential Panel On Delaney Provisions

By JOHN CIPPERLY, Croplife Washington Correspondent

WASHINGTON — The presidential panel studying problems surrounding the matter of chemicals in foods . . . particularly any chemicals thought to be of carcinogenic nature—has issued a report which is construed in scientific and government circles as defining the Delaney amendment to the food additives provision of the Food and Drug Administration law as being "unsound scientifically," and in so doing, pointed the way for congressional changes in the present FDA act.

At the same time it is learned that the Department of Health, Education and Welfare has sent to the House Interstate and Foreign Commerce Committee legislative proposals which it is said will "liberalize rigid-

(Turn to DELANEY, page 20)

Output of Ammonia and Other Fertilizers Shows Significant Increase During 1959

WASHINGTON — Production of a number of inorganic chemicals for agricultural use during 1959 showed a considerable increase over the previous year, according to figures just released by the Business and Defense Services, U.S. Department of Commerce in its "Chemical and Rubber" industry report.

Anhydrous ammonia production was up considerably over 1958's output, the report said. The figure for 1958 was 3,878,778 tons, whereas the output for 1959 was 4,505,622 tons.

Ammoniating solutions were also on the increase. The figures here are 624,221 tons in 1958, and 829,348 tons in 1959.

Total production of ammonium nitrate was likewise improved last year over the previous 12-month period. Output in 1958 was 2,581,312 tons as compared to 2,846,901 tons last year.

An exception to the otherwise favorable report of fertilizer production was ammonium sulfate which saw a drop from the previous year. In 1958, the total was 1,731,374 tons, whereas the total output for 1959 was 1,687,878 tons. This situation probably reflects the steel strike situation experienced in 1959.

Nitric acid was on the plus side in 1959. Output for 1959 was 3,073,852 tons, whereas the 1958 figure amounted to 2,704,062.

Total phosphoric acid output also increased. In 1958, it was 1,710,541 tons and last year, 1,865,699 tons. Of these totals, 1,056,063 tons were from phosphate rock in 1958, and 1,143,836 tons from that source in 1959.

A considerable increase in potash production was also noted during last year's production period. In 1958, output amounted to 2,339,313 tons as compared to 2,519,368 tons last year.

A slight drop in sulfur production was noted in 1959. That year's output amounted to a total of 5,204,397 tons as compared to 1958's output of 5,264,406 tons.

On the other hand, production of sulfuric acid was on the increase in 1959. Production of this chemical was 17,518,509 tons in 1959, as compared to 15,950,199 tons the previous year.

Superphosphate and other phosphatic fertilizers also saw an increase in 1959. Here the totals were 2,638,970 tons in 1959; 2,416,558 tons in 1958.

Urea production was 631,213 tons in 1959; 530,098 tons in 1958.

The report also said that DDT had seen a considerable increase in output during 1959 as compared to the previous year. Here the figures were 78,369 tons in 1959, and 71,608 tons for 1958.

Merger Plan Announced

KANSAS CITY, MO.—The board of directors of Spencer Chemical Co. announced that it had approved an agreement with the Pittsburg & Midway Coal Mining Co. under which Spencer would acquire all of the assets of Pittsburg & Midway in exchange for common stock.

Small Business Loans Go to Manufacturers, Applicators, Dealers

WASHINGTON — Small business loan applications were up 35% in March, compared with February, the Small Business Administration has announced. Among the businesses granted aids were crop dusting firms in Arkansas and California; a fertilizer manufacturer in Kentucky; an agricultural lime producer in the same state; and a chemical storage firm in California. Included also were a number of dealers in agricultural products.

SBA reports that 850 applications totaling $53,151,000 were received in March as compared with 630 applications totaling $35,840,000 the month before. However, the March, 1960, loan applications were well under those of March a year ago when 1,083 applications were received totaling $60,473,000—the second highest month on record. The peak month was May, 1958 when 1,099 loan applications were received for $57,344,000.

Business loan approvals during March, 1960, totaled 316 for $15,434,000, as compared with 308 loans for $13,867,000 approved in February and 509 loans for $24,950,000 approved in March a year ago. All Small Business Administration loan approvals are on a conditional basis, subject to certain terms and conditions before closing.

Disaster loans approved during March, 1960, numbered 33 for $250,000, as compared with 44 loans for $813,000 approved in February and 153 loans for $1,113,000 approved in March, 1959.

On a cumulative basis, since the start of the financial assistance program in September, 1953, the agency has approved 19,145 business loans for $897,471,000, and 9,045 disaster loans for $95,756,000.

Distinguished Service Honors Given Two USDA Scientists for Pest Control

WASHINGTON — Dr. Edward F. Knipling and Dr. H. L. Haller of the Agricultural Research Service, U.S. Department of Agriculture, were among seven USDA employees to receive distinguished service awards in ceremonies here May 17.

Dr. Haller's citation was "for national and world leadership in research on agricultural chemicals and for outstanding scientific contributions to the chemical control of agricultural pests." Dr. Knipling's award was for "inspirational leadership in stimulating research, conceiving new approaches to insect control which have received worldwide recognition, and distinguished scientific contributions to the control of livestock insects and vectors of human diseases."

Awards were presented by Ezra Taft Benson, Secretary of Agriculture, following an address by Dr. Earl L. Butz, dean of agriculture, Purdue University. Music was furnished by the U.S. Navy band.

The other five distinguished service awards were presented to Dr. Henry L. Ahlgren, director, Wisconsin extension service; Dr. Edward C. Crafts, assistant chief, forest service; Dr. Gladys G. Gallup, director, extension research and training; William D. Termohlen, retired agricultural attache to Japan; and Dr. Harry C. Trelogan, assistant administrator, agricultural marketing service.

Others honored at the ceremonies included some 82 USDA employees who received Superior Service awards; 22 cited for 40 years or more of service; and a number of group awards.

USDA outlined Dr. Haller's achievements as follows: ". . . assistant to the deputy administrator for farm research in Agricultural Research Service, he is an internationally known authority on insecticides and the control of insect pests through use of chemicals. One of his important contributions, made in collaboration with Dr. F. B. LaForge and L. E. Smith, was determination of the chemical structure of rotenone. This discovery, for which he was awarded the Hillebrand Prize of the Washington Chemical Society, made possible the development of reliable

(Turn to AWARDS, page 8)

Book on Chemical Additives Called 'Blood-Thirsty' in Biochemist's Review

WASHINGTON—An all-time high in "blood-thirsty pen-pushing" is the way Dr. William J. Darby, department of biochemistry, school of medicine, Vanderbilt University, describes "The Poisons in Your Food," a new book by William Longgood.

Dr. Darby's book review, printed in Science, a publication of the American Association for the Advancement of Science, says the book "deals with the important problem of chemical additives but from the bias of the non-scientific, natural food-organic gardening cult . . . "

The review, reprinted from Science by permission of the American Association for the Advancement of Science follows:

"This book is an all-time high in "blood-thirsty pen-pushing." It deals with the important problem of chemical additives, but from the bias of the nonscientific, natural food-organic gardening cult—the followers of J. I. Rodale (publisher of Organic Gardening and Farming, Encyclopedia of Organic Gardening, and so forth), of Natural Food Associates, Inc. (publisher of Natural Food and Farming Digest) and others of the same convictions. Most of the "authorities" named in the book are the cult leaders, their gods or a few true scientists whose work or expressions have been taken either out of context or out of time and used in such manner that they seem to support the doctrine of the believers. The quoted voices of authority and knowledge on the 'scientific facts' include Time, Police Gazette, Prevention and the Bonn correspondent of the Economist. The book is an irresponsible bid for wide sales through sensationalism. Indeed, one of the author's own definitions describes well my appraisal of it: '(an effort to) beguile, deceive and defraud the housewife by making her think she is getting something she isn't'."

"The muckraking in this book employs all well-known methods of the irresponsible purveyors of the sensational. Expenditures for life and hospital insurance, for aspirin, and for medical care are cited as indicating a damaging effect of chemicals in foods! The reader is told that '. . . the nation's health is steadily deteriorating.' He also learns that 'natural foods . . . have a delicate chemical balance that was established by nature for a purpose. These naturally occurring chemicals exist in their specific proportion for a specific purpose . . . If a larger or smaller quantity were desirable, the amount established by nature through the evolutionary process would have been larger or smaller.' The author repeatedly implies that scientists, whose uncited evidence disagrees with his views, have either been bought off by industry or by government, or that they may be deliberately prejudicing their work and reports because their university receives funds from the Public Health Service or from industry, or even because the scientist hopes that after retirement he may be able to get an industrial job!

"The author's fascination with the cult of 'natural' versus 'synthetic and artificial' is well revealed in his presentation concerning meat. The average steak or roast, he writes, 'probably comes from a cow born through artificial insemination, raised with an artificial sex hormone implant in its ear, fed synthetic sex hormones, . . . slaughtered—generally by an inhumane method—and sold as meat." In his association through name-calling, he reaches a high in stating that 'possible sexual repercussions' on human beings have been commented on by Dr. Christian Hamburger of Copenhagen, who helped the ex-G.I., George Jorgensen of New York become 'Christine' and Charles McLeod of New Orleans convert to 'Charlotte'." The device of conjuring up fears of impotence or of feminizing influences is an age-old one for those wishing to oppose science. Among primitive peoples, this device is often employed by the witch doctor to oppose the introduction of effective scientific control or treatment of disease.

"Mr. Longgood's book will no doubt be welcomed by those who believe with him that the public is the victim of a giant conspiracy joined in by the Food and Drug Administration, the American Medical Association, the 'big chemical companies' and, apparently, scientists in general — a charge so ridiculous that it deserves only to be ignored. Mr. Longgood's book will readily be recognized for what it is by any scientist with so little to do that he takes time to read it.

"Finally, it is to be hoped that the great mass of the American public is sufficiently intelligent and logical to recognize that writers and publishers sometimes fail in their responsibility to provide factual and objective information on important issues of the day despite the availability of authoritative, considered source material from organizations such as the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization of the United Nations (WHO), the Food Protection Committee of the Food and Nutrition Board of the National Academy of Sciences-National Research Council (FPC), the Food and Drug Administration, the U.S. Department of Agriculture and other responsible bodies."

NPFI CHICAGO OFFICE MOVES

CHICAGO — The Midwest division offices of the National Plant Food Institute were moved to Suite 1062 of the Builders Building, 228 N. LaSalle St., Chicago 15, Ill. The new quarters will provide more space. The telephone number is the same.

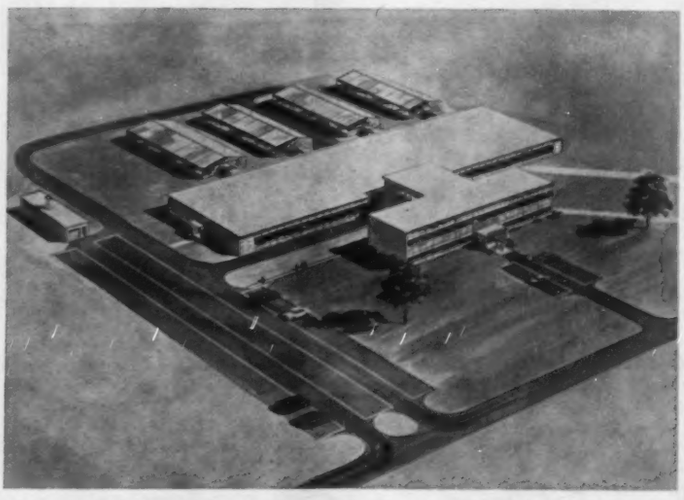
Calspray Appoints Two As Agricultural Salesmen

RICHMOND, CAL.—Dr. Robert T. Wallace, district manager for the California Spray-Chemical Corp. in the Mid-Atlantic states, announced the appointment of a new agricultural sales representative, William Plenge, Jr. Mr. Plenge now resides in Martinsburg, W.Va. and will operate out of the Inwood, W.Va., branch office. He will serve as agricultural consultant and sales representative for Calspray in that area.

Harold Matson, Calspray district manager for the Pacific Northwest, announced the appointment of Charles J. Miller as agricultural sales representative. Mr. Miller works out of the Wenatchee branch office and will act as agricultural consultant and sales representative for the growers in the Brewster area.

NEW SALES MANAGER

NEW YORK—St. Regis Paper Co. has announced the appointment of C. C. Smith as district sales manager of the Cleveland sales area of its bag division. This area includes Northern Ohio and Western Pennsylvania. Mr. Smith had been bag division sales representative of the Cleveland sales area. He is a graduate of Carnegie Institute of Technology, in mechanical engineering, and served in the U.S. Navy in World War II and during the Korean War.



ARCHITECT'S RENDITION of new research center for the Niagara Chemical Division of Food Machinery and Chemical Corp. includes office unit, modern laboratory facilities, and four large greenhouses extending from the rear. Construction of the center, which will be devoted to agricultural pesticide research, is expected to begin this summer at Niagara's headquarters in Middleport, N.Y.

Niagara to Build New Research Center

MIDDLEPORT, N.Y.—A research center for pesticide research will be built at Middleport by the Niagara Chemical Division of Food Machinery and Chemical Corp. Construction of the new center is expected to begin this summer, according to Stuart Bear, division manager, who made the announcement.

The research center will strengthen the discovery and development of new pesticide products to assist growers in their pest control problems, Mr. Bear said. Other prime objectives are to bring to early commercial sale several products now in an advanced stage of field testing and to provide technical service to existing business.

Included in the new facilities will be laboratories for the identification and measurement of minute chemical residues on crops, an improved organic synthesis section, and expanded biological screening and formulation laboratories.

Under the supervision of Dr. Robert L. Gates, director of research and development, the professional and technical staff will be enlarged to implement Niagara's broader research program.

Chemical Residue Problems Discussed In North Carolina

RALEIGH, N.C. — Problems of chemical residues in agriculture were discussed at a statewide conference here May 16-17.

Some of the nation's leading authorities on farm chemicals were among the speakers for the sessions at North Carolina State College.

Informed sources pointed out that residues left on farm products by insecticides and other chemicals used in agriculture have caused much concern to scientists and others in the farm field.

W. L. Popham, deputy administrator of the U.S. Department of Agriculture's Agricultural Research Service, spoke May 16 on the responsibility for use of chemicals in agriculture. Another speaker was G. J. Haeussler, assistant director of the entomology research division at the U.S. Department of Agriculture farm, Beltsville, Md. Carl Smith, produce director for Gerber Baby Foods, also appeared on the program.

L. Y. Ballentine, state agriculture commissioner, moderated a panel discussion on what is being done to avoid residues. On the panel were Dr. Thomas Bowery of North Carolina State College, and Dr. E. W. Constable of the state agriculture department.

Represented on the round table were the food processing industry, fruit grower associations, the animal products industry, vegetable producers, and others.

A half-day program May 17 considered the needs of State College and the State agriculture department in research and extension work in connection with residues.

Chemagro Releases Three Experimental Insecticides

KANSAS CITY — Chemagro Corp. has released three new experimental agricultural insecticides for general field evaluation in the United States and Canada. Invented by Farbenfabriken Bayer, A.G., Leverkusen, Germany, these materials have already been extensively evaluated in many parts of the world. These materials are identified by experimental code numbers Bayer 29493, Bayer 28589, and Bayer 30686.

Chemically, Bayer 29493 is O,O-Dimethyl O-[4-(methylthio)-m-tolyl] phosphorothioate, but has been given the code designation Bayer 29493 for evaluation in the U.S. and Canada. In some parts of the world it is referred to as "Baytex."

The World Health Organization has evaluated Bayer 29493 under the name of Baytex in many parts of the world against lice, ticks, flies, mosquitoes and bed bugs. In areas where malaria control campaigns were relatively unsuccessful due to resistance to DDT, this new experimental material has been able to turn the tide against the resistant pests.

In agricultural areas where mites are resistant to the currently available materials, two non-phosphate compounds are now available for testing to control these pests. These materials are being tested under the code numbers Bayer 28589 and Bayer 30686. Bayer 28589 is 2,6-Di-tert-butyl-4-nitrophenol. Bayer 30686 is 2,3-Quinoxalinedithiol cyclic trithiocarbonate. These materials, while unrelated to each other chemically, have in common very marked specificity for the control of mites. The materials have been tested extensively on cotton, fruit, and ornamentals, and control has resulted of both resistant and non-resistant mites.

Named Distributor

SARANAC, MICH.—Universal Metal Products Co., Saranac, announces that Huey & Philp Co. of Dallas, Texas, is now offering Universal's line of sprayers, dusters and allied products to its customers.

INSECT, PLANT DISEASE NOTES

Alfalfa Weevil Spreads In North Carolina

ASHEVILLE, N.C.—Riley Palmer, county farm agent, says the alfalfa weevil, a major enemy of alfalfa in eastern and Piedmont, North Carolina, for several years, has spread throughout Buncombe County this year.

"It was found in Buncombe last year for the first time, in the Black Mountain area," he added.

Mr. Palmer went on to say that the alfalfa weevil should not be confused with the green aphid, sometime known as plant lice, which has been prevalent on alfalfa this year. The aphid is a soft bodied insect, which causes most of its damage by sucking on juices from the alfalfa plant.

Virginia Sprays Fields For Aphid Control

BLACKSBURG, VA.—Spraying to control the alfalfa weevil is generally underway in Virginia where alfalfa is grown.

Entomologists at Virginia Polytechnic Institute say that reports so far indicate good control was obtained with heptachlor treatments made before March 9, the deadline date set for use of this insecticide in Virginia.

Spray treatments with malathion and methoxychlor also are giving excellent results this spring.

Alfalfa growers are alerted to keep checking their fields for weevil damage, and to begin spraying when damage warrants it.

Many reports of pea aphid infestations are being received.

Sawflies are causing damage generally in several counties where they were a problem on pine last spring, and several reports of the pine bark aphid on white pine have been received.

Recent cool weather has slowed up the activity of the "face" fly on livestock in Virginia. No control recommendations are available for this relatively new pest, but research is being conducted by Virginia Agricultural Experiment Station on the problem.

Cool, Wet Missouri Weather Slows Insects

COLUMBIA, MO.—The cool, wet weather of the week ending May 14, slowed most insect activity as well as plant development. The exception to the above statement would be the aphid situation. The low temperature has allowed aphid increase while retarding diseases, parasites and predators.

Pea aphid numbers continue to increase, particularly in the central third of the state and south of the Missouri River. Stunting, yellowing, leaf curling and abnormal deposits of honeydew are evident in many fields.

Spraying is justified and needed in many alfalfa fields that are 10 days to two weeks away from normal cutting. Cutting alfalfa that is within a week of normal harvest will serve to reduce aphid numbers, but watch closely for a build-up on the new growth and spray at the first sign of stunting.

There has been a slight increase in the numbers of greenbugs present on small grains and grasses over the southwest area of the state. Most barley, rye, wheat and orchard grass fields have now advanced to the stage in their development that greenbugs will not cause economic damage.

Spring seeded oats presents a different problem. At the present the numbers of greenbugs on oats is far too low to warrant control. However, oats will be susceptible to greenbug injury for several weeks to come.

A few small armyworms continue to be found in rank and dense barley and wheat in several southeastern counties. Counts range from an average of 0 to 2 worms per square foot. In small lodged spots within barley fields counts range from 2 to 4 worms per square foot.

All worms are still very small with the largest measuring just slightly over one-half inch in length. Many of these larger larvae are already parasitized.

The fact that a few grains are missing at the bottom of the heads of barley is not a sign of armyworm damage. This condition is present in all fields and is a result of these lower grains not being pollinated. Armyworms do not turn to feeding upon the heads until they are an inch or more in length and after they have stripped most of the blades from the plants.

Wet Soil Encourages Corn Insects in Iowa

AMES, IOWA—Cool wet soil will encourage losses by insects that attack seed corn. The same weather conditions will be ideal for cutworms.

The spring corn borer survey was completed during the week of May 1-6 by U.S. Department of Agriculture, state, experiment station and extension entomologists. The survey is made in stalk fields planted to oats where no further destruction of overwintered corn borers will occur. The first corn borer pupa was found in Boone County May 11. This is average.

The spring corn borer survey was completed the week of May 2. The results of the survey follow:

Section	Total live borers	Total dead borers	Av. live borers/sq. yd. sample	% alive
SW	2	2	.04	50
NW	11	4	.22	73
C	3	2	.12	60
NE	11	6	.22	65
SE	10	4	.20	70
Totals	37	18		

	1960	1959
Average live borers/sq. yd. sample for state	0.15	0.63
Number of live borers/acre of oats	726	3,049
Per cent of total borers found alive	67.0	71.0

Spittle bugs average one first instar nymph per square foot in Marshall, Tama, Benton, Linn, Cedar, Scott, Muscatine, Louisa, Washington and Johnson counties. This low population may be due entirely to cool weather (hatch not yet complete) or beating rain. The population which justifies chemical control is one nymph per stem or about 50 times the populations observed this week.

Clover leaf weevil larvae averaged one per plant in the same area. The population justifying treatment is six per plant.

Pea aphids averaged 2-5 per sweep along U.S. 30, but jumped to 50 per sweep in Johnson, Washington, Louisa and Muscatine counties.

Alfalfa and clover are growing well in this area. The only apparent damage to legumes is frost damage. We would not recommend insecticide treatment for any of these insects at this time.

Tarnished plant bugs averaged 2-4 per 10 sweeps.

Hackberry psyllids: The overwintered adults showed up in large numbers during the first week in May. These adults will lay eggs in unfolding hackberry leaves. The nymphs, feeding inside the leaf tissue, cause an irritation. This irritation stimulates the leaf tissue to form the typical nipple gall. These galls do not seem to affect the health of the tree.

Spring cankerworms have hatched and are feeding. One was sent in from hackberry in Marion County.

Cabbage butterflies—white wings

SOUTH "RISES" ON WINGS OF CROP DUSTER CRAFT

MERCEDES, TEXAS—"Save Your Confederate money 'cause the South's gonna rise again."

If you don't believe it, just wander out to the Mercedes Dusting Service, Inc., airstrip and take a look at the "Confederate Air Force."

Some 48 crop dusters have taken time off from dusting and spraying cotton, vegetables and grapefruit trees to organize a formidable squadron of piston planes but they are looking for still more ships.

They have two Grumman F8F Bearcats, a North American F-51, and a Republic Sea Bee, all with Confederate flags painted on them but they are still looking for an F4U Corsair and P-38 Lightning to complete their squadron of old reliable prop jobs. They all hold certificates reading in part as follows:

"Be it known by these presents that, in recognition of his having manifested an unusually high regard for black-eyed peas, turnip greens, corn pone, sow belly, pot likker and grits and being sufficiently fascinated by all manner of flying planes, ... is hereby appointed to the rank of colonel in the Confederate Air Force.

"As an officer of this corps, I strictly charge and require all officers of the Air Militia of the South to extend such southern hospitality to those deserving it as is expected of an officer of this distinguished rank and honored position.

"Signed: Jethro E. Culpepper, Adjutant, CAF."

with black markings—were flying in Cedar, Washington and Louisa and Muscatine counties May 12. The larvae will soon be eating holes in the leaves of cabbage and related crops.

One agent sent in spruce needle miner from Cass County. The green larvae feed inside needles as young worms. As nearly mature worms they web spruce needles together and feed in groups on them. Adults will be emerging soon and will lay eggs during the next two weeks.

Eggs from pine needle scale began to hatch at Ames May 16.—Harold Gunderson.

Fire Ant Regulations Added in Four States

WASHINGTON—Six counties and parts of 19 additional counties and parishes in Alabama, Georgia, Louisiana and Mississippi are now regulated for the first time, effective as of May 10, because of imported fire ant infestations, the U.S. Department of Agriculture has announced.

Areas regulated for the first time:

Alabama: Lamar, St. Clair, and part of Pike County.

Georgia: Bibb, Mitchell and Seminole, and parts of Early, Miller, Peach, Schley and Sumter counties.

Louisiana: Parts of Bossier, East Carroll, Franklin, Jefferson Davis, Morehouse, Tensas, Union and West Carroll parishes.

Mississippi: Adams, and parts of Calhoun, Carroll, Choctaw, Franklin and Scott counties.

Minor additions were also made to some previously-regulated counties and parishes in the above states and in Arkansas.

The imported fire ant, named for its fiery sting, is a destructive and annoying pest. Its hard-crusted mounds reduce the carrying capacity of grazing land and damage farm machinery used in infested fields. It causes crop damage, and is a health hazard.

Small Grasshopper Counts Made in Kansas

MANHATTAN, KANSAS — Small grasshoppers along weedy field margins average less than five per square yard. The weedy edges of gardens should be checked closely for grasshoppers especially in the areas that have had recent rain. No grasshopper problems were found in field crops.

Chinch bugs were found in wheat fields in Anderson, Coffey and Lyon counties. Counts ranged from less than 1 to 5 bugs per linear foot of row.

Cutworm damage to small corn plants has been reported from southern Kansas.

Pea aphids can be found in most alfalfa fields. Some southeast Kansas fields have shown severe damage. Most of the alfalfa is in the bud stage so early cutting should take care of the pea aphid problem.

Green bug counts in wheat, barley and oat fields in the northeastern and east central areas ranged from less than 1 to 100 per linear foot of row.

Cankerworms are damaging trees in Barton County. Chemical controls are being applied in Iola, Allen, Ottawa and Franklin counties.

Bagworm eggs were examined in Franklin, Shawnee and Riley counties. "Black head" of larvae could be seen through egg wall. Eggs should be hatching within the next two weeks.

June beetle damage to rose leaves and buds is quite common in southwest Kansas. June beetles feeding at night are probably responsible for this damage. A heavy coating of dust or spray containing DDT or methoxychlor should be applied.—Leroy Peters and Dell E. Gates.

Named Manager New Nursery Division

SEATTLE, WASH.—Establishment of a new nursery, greenhouse and turf division to provide sales and service for advanced fertilizer formulations and other materials required for specialized production of high-value crops has been announced by Pacific Agro Co., Seattle.

Robert W. Moller

Robert W. Moller, formerly of the State Flower Nursery, Inc., at Kenmore, Wash., has been appointed manager of this new division, Lee Fryer, Pacific Agro's manager, said. He pointed out the increasing need for competent advisory service in the use of the specialty fertilizer materials now being manufactured to the specific needs of turf maintenance, horticulture and floriculture, including container-grown nursery stock. "Recent developments in this field have been so rapid that expert counseling is required if growers are to gain the full potential available now and in the future," he said.

Pacific Agro Co. formulates special materials for wholesale producers in Oregon, Washington, Idaho, Western Canada and Alaska.

ST. REGIS ELECTS

NEW YORK—Directors of St. Regis Paper Co. at a meeting elected Philip B. Duffy and John A. McDermott vice presidents of the company on April 28. Mr. Duffy, who is executive vice president of St. Regis container division, was named vice president-corrugated containers. Mr. McDermott, general manager of all pulp and paper manufacturing, has been named vice president in charge of pulp and paper manufacturing.

Contracts Awarded for New Canadian Plant

TORONTO, ONT.—Contracts now are being awarded for the proposed $19 million Brockville Chemicals, Ltd., plant at Maitland, Ont., between the Toronto and Montreal markets.

The company—controlled by Belgian-backed Sogemines, Ltd.—has let major equipment contracts to L'Air Liquide of Montreal; Power Gas Co. of London, England and Montreal, and Chemical Construction Co. of New York.

The general construction contract had not been awarded early in May, but was expected to be before very long.

The plant will produce ammonium nitrate, nitrogen solutions, anhydrous ammonia and hydrogen.

Completion is planned for 1961. Principal raw material will be western natural gas. The company has a sales contract with DuPont Co. of Canada, which has a nearby plant.

E. K. Chandler Assigned To New NPFI Post

WASHINGTON — E. K. Chandler, formerly district representative of the National Plant Food Institute at Knoxville, Tenn., has been assigned responsibility for the four southwestern states of Arkansas, Louisiana, Oklahoma and Texas, with headquarters in Shreveport, La.

E. K. Chandler

The announcement was made by Dr. Robert L. Beacher, director of NPFI's southern region covering the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia, with headquarters at Atlanta. Mr. Chandler will move to Shreveport in about 60 days.

Mr. Chandler, prior to affiliation with NPFI, was assistant professor of agronomy research at the Louisiana State University's North Louisiana Hill Farm Experiment Station at Homer.

Paul T. Truitt, president of NPFI, stated that with Dr. Beacher as director and Mr. Chandler as district representative in the southern region "we expect even greater intensification of programs in the field of research and education in this important area."

Mr. Chandler received his bachelor of science degree in general agriculture and rural sociology in 1948 from Louisiana State University and his master of science degree in soils from the university in 1955.

He was employed for a period of two years by the Phillips Petroleum Co. as a fertilizer sales and agronomic educational district representative. In his position at the North Louisiana Hill Farm Experiment Station he was associated with numerous variety, cultural and fertility field and laboratory research studies with most of the leading agronomic crops of the South.

William J. Ashe Named Witco Vice President

NEW YORK — The promotion of William J. Ashe to administrative and financial vice president of Witco Chemical Co., Inc., has been announced by Max A. Minnig, company president.

Prior to his promotion, Mr. Ashe was controller and assistant secretary. In his new position, Witco's accounting, legal, traffic and insurance departments report to him. He joined Witco in 1957. Before then, he was controller of Continental Carbon Co., a Witco affiliate.

Both an attorney-at-law and a certified public accountant, Mr. Ashe was graduated from the University of Kansas City with a B.A. in accounting and economics and later received an LL.B. from the University of Tulsa.

Dozen Pesticides Named For Restricted Lawn Use

TALLAHASSEE, FLA.—The State Board of Health recently (April 30) released a list of 12 pesticides proposed for restricted use on lawn and ornamental shrubbery.

A spokesman said the list was compiled by the advisory council, a group of industry representatives appointed by the board. The council compiled the list at a meeting in Jacksonville recently.

Meanwhile, announcement has been made that a public hearing was to be held in Jacksonville and unless changes are made, the list will become official as coming under the recently adopted rules and regulations of the State Board of Health governing the operations of commercial sprayers of lawns and ornamental shrubbery.

Letter To the Editor

To the Editor:

In the April 18 issue is an article headed "Regulation by Press Conference," "Judgment by Decree Attacked," written by Fred E. Tunks of your editorial staff.

As a company supplying equipment to both the fertilizer industry and to industries processing foods, the comments contained in this resume of a talk by Herrell F. DeGraff hit at the very facts that are most important in the recent FDA Food Additives Amendment.

In our efforts to inform our sales representatives, prospective buyers and our own staff, we would very much appreciate knowing if reprints of that particular article are available. If they are, 40 or 50 copies would be sincerely appreciated.

We are very glad to see that many of the industrial magazine and newspaper publishers are taking a firm stand in advancing the logic attendant to a better understanding of the FDA Food Additives Amendment. Intelligent editorial comment, together with publicity of pertinent information, such as the articles referred to above, is important and essential to the food products industry at all levels from farming through packaging.

The Orville Simpson Co.,
V. L. Corbin, sales maanger.

Stanford Research Institute Receives $300,000 Grant For Pesticide Studies

MENLO PARK, CAL. — Stanford Research Institute has received a grant of $300,000 from the John A. Hartford Foundation, Inc., of New York to study the effects on human beings and animals of pesticides used on food crops. Announcement of the grant was made jointly by Ralph W. Burger, president of the foundation, and E. Finley Carter, president of the institute.

According to Dr. Dale M. Coulson, manager of the institute's analytical chemistry laboratories who will direct the study, there is a great need for diagnosis and treatment of illnesses resulting from pesticide problems. The institute hopes to develop a method for rapid diagnosis of chronic pesticide poisoning in humans.

The use of organic pesticides and chemicals in connection with animal and human food production has increased tremendously in recent years, he added. While this has materially increased agricultural productivity, it has also developed a source of contamination of crops and animal tissue which is consumed by humans. Little is presently known about animal metabolism of pesticides and the indirect (absorption) contamination of crops and animal products used as human food. At present there are neither suitable rapid methods of analysis nor facilities to do the necessary pesticide studies in connection with those animal and human problems.

With the institute's analytical equipment, chemists can screen a variety of pesticides simultaneously. Normally, the screening can be completed within one hour using the automatic analyzer. Classical methods of analysis usually require eight hours or more to complete.

Strike Ended

SAINT LOUIS, MICH.—The seven-day strike by District 50, United Mine Workers of America union which had closed Michigan Chemical Corp.'s new seawater magnesia plant at Port St. Joe, Fla., was ended recently without the need of outside mediation.

The settlement accepted by the union followed closely the offer made by the company prior to work stoppage. The contract covers a two-year period.

SWEET CROP—Standing in his sugar beet field surrounded by "mountains of sugar" he has produced, John Domingos (on right) receives congratulations from Dr. Richard Bahme, western regional director of the National Plant Food Institute, on becoming world champion beet sugar producer. "Beet Sugar King" Domingos, of Salinas, Cal., produced a record-breaking 53.60 tons of beets per acre containing 17,036 lb. of sugar in 1959. The feat was accomplished through heavy utilization of fertilizers.

Stauffer Sales, Earnings Show Quarterly Rise

SAN FRANCISCO — Sales and earnings of Stauffer Chemical Co. for the first quarter of this year were slightly higher than in the same quarter last year, announced Christian de Guigne, board chairman, at the annual meeting of stockholders.

Net sales for the three months ended March 31, 1960 were $53,210,000 compared with net sales of $52,885,000 for the corresponding period last year. Net earnings were $5,048,000 or 55¢ per share as against $4,956,000 or 54¢ per share earned during the first three months of last year.

All directors were re-elected. They are: Christian de Guigne, August Kochs, Christian de Dampierre, George C. Ellis, Raymond L. Geiler, Elliott McAllister, Vincent H. O'Donnell, Edward S. Rothrock, Hans Stauffer, John Stauffer, Rothe Weigel and Rollo C. Wheeler.

Mr. de Guigne told the stockholders that the company was continuing its expansion program with the construction of new or larger facilities at Niagara Falls, N.Y.; Delaware City, Del.; Henderson, Nev.; Vernon, Cal.; Weston, Mich.; Houston; Chicago, and Mount Pleasant, Tenn.

HERCULES VETERAN RETIRES

WILMINGTON, DEL.—The retirement of Philip A. Ray, manager of the Denver, Colo., office of Hercules Powder Co.'s naval stores department, under the company's pension plan, has been announced here. His retirement was effective May 1. Mr. Ray joined Hercules in 1928 when he became associated with the company first as a metallurgist in the Colorado School of Mines Laboratory. Two years later, he transferred to Hercules home office in Wilmington, working in this area for the next sixteen years. In 1944 when the company's naval stores department opened a district office in Denver for the first time, Mr. Ray went there as district manager.

IMC APPOINTMENTS

SKOKIE, ILL.—International Minerals & Chemical Corp. has announced two appointments in the development department of the research, engineering and development division. Lewis Barry was named manager of the Florida experiment station, Mulberry and Robert Shetler, senior process engineer at Bonnie, Fla., was promoted to senior development engineer.

IMC Launches Mission On Transportation

CHICAGO—Traffic experts of International Minerals & Chemical Corp., visiting 239 fertilizer companies recently in a new phase of IMC's customer service program, report effective solutions to 59 specific problems.

With transportation pegged at about one-third the total cost in the plant food industry, IMC had undertaken the service to show the individual fertilizer manufacturer what he can do about his transportation costs and services.

Eight traffic men, headed by Eugene Landis, IMC director of transportation, spent varying parts of January, February and March paying personal visits to customer companies across the United States and Canada.

Their question was "What's your transportation problem—and can we help?" Replies came from the smallest of companies and from those with their own traffic specialists. The problems and solutions covered the full range of the complicated transportation picture, indicating the wide interest in this important phase of the fertilizer business.

The group reports numerous instances where transportation "know how" was able to aid fertilizer manufacturers. Incidents included making new agreements with railroads for more favorable rates; suggesting location of a proposed plant where local charges for phosphate could be removed; and at least one case where overcharges had been made over a period of years and a refund was made to the fertilizer firm.

International Minerals says it regards the mission as "the most comprehensive attempt ever made to bring the most effective transportation possible to the plant food industry."

According to Mr. Landis, "Faulty rates and faulty service had resulted simply because local freight agents were unfamiliar with certain commodity rates, volume rates, intermediate scheduling and other factors."

Field Agronomist Named

RICHMOND, CAL. — The recent appointment of Dr. Charles T. Lichy as field agronomist in the Fresno area of California Spray-Chemical Corp.'s western operations was announced by George Wood, Calspray district manager. Dr. Lichy was formerly a research chemist for several nationwide firms based in St. Louis and will make his new home in Fresno with his wife and three children.

He is a native of Pittsburgh, Pa. and graduated from the Pennsylvania State University and Rutgers University, receiving B.S. and Ph.D. degrees at those institutions. He was the recipient of a research fellowship from the American Potash Institute during his graduate years at Rutgers.

AWARDS

(Continued from page 1)

and commercially practical rotenone insecticides.

"Dr. Haller first entered USDA in 1919 following service with the Army Air Corps in World War I. In 1923 he was named to the staff of the Rockefeller Institute for Medical Research as an associate in chemistry. He returned to USDA in 1929. Later rising to assistant chief of the Bureau of Entomology and Plant Quarantine, assistant director of the ARS crops research division, and then to his present position.

"Dr. Haller was born in Cincinnati, Ohio, and received his bachelor's degree from the University of Cincinnati and his Ph.D. in biochemistry from Columbia University. He is a member of the American Chemical Society, the American Society of Economic Entomologists, the American Association for the Advancement of Science, and Alpha Chi Sigma."

Dr. Knipling, USDA said, is "director of the Agricultural Research Service entomology research division, and an authority on medical and veterinary entomology. Earlier this year, he was named one of five outstanding men of the year in service to southern agriculture by The Progressive Farmer magazine. Dr. Knipling has been cited several times for outstanding contributions to the development of insecticides and to improved control of insect-borne diseases. He has published more than 75 scientific papers dealing with the identification and control of pests affecting farm animals.

"Dr. Knipling joined USDA in 1930 as a field assistant in the Bureau of Entomology and Plant Quarantine and served as junior, assistant, associate, and senior entomologist before assuming his present position in 1953.

"Dr. Knipling was born in Port Lavaca, Texas, and received his bachelor's degree from Texas A&M College and his master's and doctorate degrees from Iowa State University. He is a member of the Mosquito Control Association, the National Malaria Society, and a past president of the American Association of Economic Entomologists."

Elected to the Board

SAN FRANCISCO—Harold E. Ferguson, vice president in charge of the fertilizer division of Balfour, Guthrie & Co., Ltd., San Francisco, has been elected to the firm's board of directors and has been appointed a senior vice president.

INTERIOR of new process development building at Spencer Chemical Co. research center in Kansas City. This picture shows a portion of the new building which has a 36-ft. ceiling to allow for the installation of a wide variety of process equipment. Office space is provided on the balcony at left.

Spencer Completes Research Facility

KANSAS CITY, MO.—Equipment is now being installed in Spencer Chemical Co.'s new process development building at its research center in suburban Kansas City. Completion of the building marks the final step in consolidation of the company's research facilities in Kansas City and, according to Dr. Nat C. Robertson, Spencer vice president of research and development, "It will enable an effective integration of the laboratory research which develops new ideas and the engineering work which perfects these ideas into processes which are commercially practical."

Started last fall, the process development building is the fourth structure to be built at Spencer's research center, 9009 W. 67th St., Merriam, Kansas. Until recently, process development work had been conducted at the company's Jayhawk Works near Pittsburg, Kansas.

Included in the new building are about 10,000 sq. ft. of work space, plus maintenance and storage facilities and office space which can accommodate 18 persons. Architectural details include a brick front, harmonizing with the other Center buildings. Sides and back of the building are covered with insulated cement-asbestos panels on a steel framework. The latter type of construction is said to be unique in the Kansas City area. It was chosen because of its light weight, easy installation and maintenance and because it can be easily removed for expansion.

Canadian Shipments Show 6% Rise

OTTAWA—Value of factory shipments by 45 establishments in Canada engaged primarily in the manufacture of fertilizers in 1958 was $89,146,000, an increase of 6.3% from the 1957 total of $83,808,000 but a decrease of 3.6% from the all-time high of $92,499,000 set in 1955, according to the dominion bureau of statistics annual industry report. Factories in other industrial classifications produced fertilizers worth $6,784,000 compared to $6,774,000 in the preceding year. Number of employees fell to 2,993 from 3,011 in 1957, but salaries and wages rose to $13,425,000 from $12,899,000 and cost of materials to $48,594,000 from $47,134,000.

Shipments of mixed fertilizers in 1958 increased to 747,067 tons valued at $39,656,970 from 716,387 tons worth $36,573,644 in 1957. Shipments of super-phosphate, ammonium nitrate, ammonium phosphate, ammonium sulphate and ammonium nitrate phosphate rose to 943,496 tons valued at $43,870,770 from 930,124 tons worth $42,375,066.

SPECIAL MERCHANDISING SECTION

BETTER SELLING

MARKETING NEWS AND FEATURES

Texas Dealer Makes Every Customer A Perpetual Fertilizer Demonstrator

By RUEL McDANIEL
Special Croplife Writer

Coastal Bend Fertilizer & Implement Co., Corpus Christi, Texas, faced a serious basic merchandising problem. There was a tremendous potential fertilizer market in the intensively-cultivated area, but the land was rich and owners did not believe fertilizer was needed.

The management has solved the problem, to a large degree, by making every customer a demonstrator of the practical value of fertilizer on his and nearby farm land.

Although the company specializes in the sale of anhydrous ammonia, John Kelly, company secretary, declares that his concern's basic job is to sell fertilizer first, its own line second.

In order to "break into" the big potential market, the company called on farmers with the suggestion that they fertilize a few acres of a specific field the first year and watch results. In this way the management has been able to induce a number of large-scale farmers to fertilize their entire holdings and others gradually are being won over to the use of fertilizer by this basic approach.

Last year, for example, Mr. Kelly induced a farmer acquaintance to try fertilizer on an 80-acre plot of his 1,200-acre cotton and milo maize farm. This year the entire 1,200 acres are under fertilizer.

Regardless of how much or how little land a farmer fertilizes, the company requests him to leave a few rows intermittently throughout the field unfertilized. Thus as the cotton or grain develops, the unfertilized rows stand out so conspicuously that

(Turn to DEMONSTRATOR, page 12)

COASTAL BEND Fertilizer & Implement Co., Corpus Christi, Texas, is located in the middle of a farm area and provides anhydrous ammonia service to rich-land farmers who had to be sold on the value of fertilizing.

GIRLS punch credit cards in the addressing department at Mid-South Chemical Corp.'s office in Memphis. The cards are then checked against a master list.

MR. ROBINSON takes the new credit card equipment from his car to explain it to C. B. Owen, one of the partners in O & I Fertilizer Distributors, Taft, Texas.

HARVEY ROBINSON, credit manager of Mid-South Chemical Corp., explains the firm's 30-day credit card system to a banker. The firm believes ammonia purchases should be a part of each farmer's annual bank financing plan.

Southern Firm Starts Credit Card System for Fertilizer

Mid-South Chemical Corp. of Memphis, Tenn., distributor of anhydrous ammonia under the brand name Big N in 11 states, has inaugurated a credit card system similar to that employed by major oil companies. It is the only fertilizer company using such a system, according to Harvey Robinson, credit manager of the firm.

"It has worked well," said Mr. Robinson, "and it certainly simplifies charges in the field and processing in the office. Everything gets charged to the right account, since each credit card has its own number."

Mr. Robinson explained Mid-South has gone the service station one better.

"We use a duplicate set of cards at each commission distributor's place of business to help solve a problem for the distributor. We knew that the farmer himself might not be the one to pick up a tank of ammonia, but we still wanted to be able to use the card to stamp the invoice. So we have a duplicate card in the distributor's office in a little Rolex file, always ready for use."

Mr. Robinson explained the card system is for a credit of convenience only, not a credit of necessity. Each distributor is encouraged to outline the plan for his banker so that the farmer's credit needs of more than 30 days may be made a part of the year's financing program. Mid-South's credit terms are 30 days only.

(More Pictures on page 13)

"HERE is all the equipment you need," Mr. Robinson tells Mr. Owen. The plate is simply slipped into the stamping machine when customer makes a purchase. A duplicate set of cards is kept by each of our commission distributors.

WHAT'S NEW IN PRODUCTS · SERVICES · LITERATURE

To obtain more information about items mentioned in this department simply: (1) Clip out the entire coupon in the lower corner of this page. (2) Circle the numbers of the items of which you want more information. Fill in the name and address portions. (3) Fold the coupon double with the return address portion on the outside and fasten the edges with a staple, cellophane tape or glue. (4) Drop in the mail box.

No. 6064—Power Conveyor

Power Curve Co. announces a power driven conveyor with power stacker which the company says permits one operator to load 100 lb. bags at a rate of 20 a minute. The design saves up to 75% of man hours in high speed loading and eliminates hand wheel trucks in the loading of box cars and trucks, the company says. Discharge

arc of 180° reaches all parts of car or truck. For details, check No. 6064 on the coupon and mail.

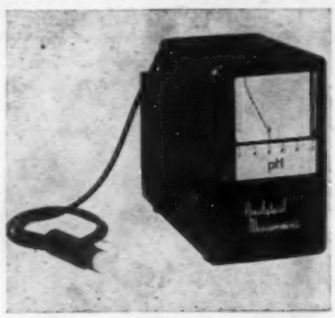
No. 6065—Drum Rack

A two-barrel over-wheel drum rack for pre-emergence and lay-by spraying has been announced by Engine Parts Manufacturing Co. According to the company, it is suitable for rear axle mounting on any farm tractor and is known as Yellow Devil Model 3878-D. Installed in conjunction with either a rear or front-located sprayer, the rack provides space for dual

55 gal. drums, 110 gal. extra spray. Another feature is high clearance which prevents damage to crops. For details, check No. 6065 on the coupon and mail.

No. 6066—pH Meter

Analytical Measurements, Inc., announces the availability of a com-



bined pH meter and strip chart recorder. The instrument utilizes an electronically modulated amplifier that compensates for line voltage fluctuations and uses standard radio tubes. A strip chart recorder forms the front panel of the instrument and contains a 63 ft. roll of chart what will last for 31 days. Full details can be secured by checking No. 6066 on the coupon and mailing to this publication.

Also Available

The following items have appeared in previous issues of Croplife. They are reprinted to help keep dealers on the regional circulation plan informed of "What's New."

No. 6063—Insecticide Information

Full details on the status of methoxychlor insecticide for use on forage crops and dairy cattle is contained on labels being made available by E. I. du Pont de Nemours & Co., Inc. According to the company, when used according to label recommendations, methoxychlor does not result in residues in milk, and therefore complies with the zero tolerance of methoxychlor in milk established by the Food & Drug Administration. For more information, check No. 6063 on the coupon and mail.

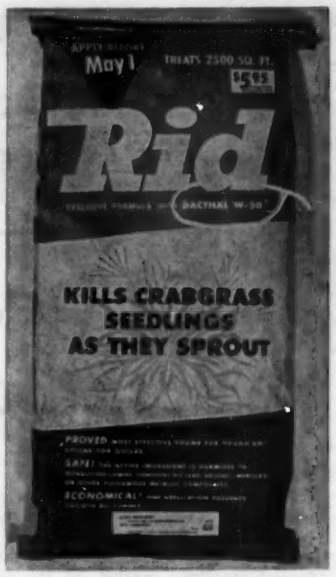
No. 6056—Improved Lawn Food

Swift & Co. announces greater coverage, higher nutrient content, ease of handling and a formula designed for grass in its 1960 line of Golden

Vigoro Lawn Food. It is now packed in 35 lb. bags, with a coverage of some 5,000 sq. ft., the company says. For more information, check No. 6056 on the coupon and mail.

No. 6059—Crabgrass Control

Discovery of a herbicide chemical that gives control of crabgrass and other noxious annual weeds, has been announced by Diamond Alkali Co.



Called "Dacthal," the chemical dimethyl tetrachloroterephthalate, prevents germination and growth of crabgrass. It is being marketed under the Swift & Co. brand name of "Rid." For details, check No. 6059 on the coupon and mail.

No. 6061—High Pressure Pumps

A Royalier series of high pressure pumps incorporating a principle to provide a pulsation-free stream of spray material has been introduced by John Bean Division of Food Machinery and Chemical Corp. The Royaliers are additions to the company's standard line of pumps. The line now includes 3, 5, 10, 15, 20, 25, 35 and 60 gal. a minute capacity models. The new pumps offered are the J-15 Royalier with 15 gpm capacity at pressures up to 400 lb. and the J-20 with 20 gpm capacity at up to 300 lb. pressure. The pumps are of fully enclosed construction with four corrosion and wear resistant sapphite cylinders, heavy-duty ball bearings and positive action, spring loaded stainless steel disc type valves, the company says. For details check No. 6061 on the coupon and mail.

Send me information on the items marked:

☐ No. 6055—Calendar Promotion	☐ No. 6061—High Pressure Pumps
☐ No. 6056—Improved Lawn Food	☐ No. 6062—Spray Nozzles
☐ No. 6057—Fork Lift Booklet	☐ No. 6063—Insecticide Information
☐ No. 6058—Insecticide Folder	☐ No. 6064—Power Conveyor
☐ No. 6059—Crabgrass Control	☐ No. 6065—Drum Rack
☐ No. 6060—Pallet Loading Machine	☐ No. 6066—pH Meter

(PLEASE PRINT OR TYPE) COUPON NOT VALID AFTER 60 DAYS

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COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

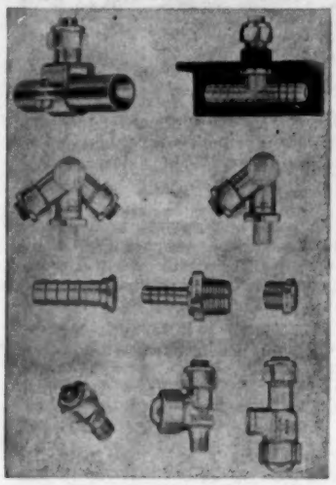
Croplife

P. O. Box 67

Reader Service Dept. Minneapolis 40, Minn.

No. 6062—Spray Nozzles

Spraying Systems Co. is offering a large selection in sizes and types of components of nozzles made of nylon. Tee-Jet spray nozzles with ¼ in. NPT male connection are available in a complete choice of flat, full cone or hollow cone orifice tip capacities,



the company says. All nozzle parts are made of nylon, with the interchangeable orifice tips in choice of stainless steel, aluminum or brass, and the strainer screens made of stainless steel. For complete information, a booklet can be obtained by checking No. 6062 on the coupon and mailing.

No. 6055—Calendar Promotion

Douglas Chemical Co. announces it has again prepared a two-year, color

calendar featuring pictures of the 12 most troublesome bugs with which grain storers have to contend. According to company literature, the calendar was so popular for the 1958-59 period, that it prompted reprinting it for the 1960-61 period. For copies, check No. 6055 on the coupon and mail.

No. 6058—Insecticide Folder

Pennsalt Chemicals Corp. announces the availability of a folder entitled "Control Aphids on Non-bearing Fruit Trees, Nursery Stock and Ornamentals." The folder describes Penco Ompa, a water soluble organic phosphate compound which contains 4 lb. octamethyl pyrophosphoramide per gallon for aphid control and mite suppression. How it works, advantages, how it is used and dilution table are included. For copies, check No. 6058 on the coupon and mail.

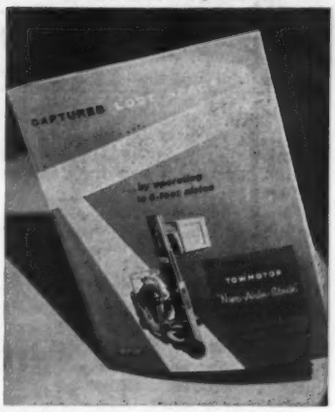
No. 6060—Pallet Loading Machine

A pallet loading machine which permits high speed one-man loading of standard pallets for transporting by fork lift truck, has been announced by the Power-Curve Conveyor Co. The unit's powered turn-table station is used with a standard Power-Curve

flexible loader and swivel stacker. Bags are power propelled into position on the pallet with the machine operator guiding each bag, using any palletizing pattern. When one pallet is loaded, the turntable is rotated to position a new pallet while the loaded pallet is removed by fork lift. More than 1,000 bags an hour can be palletized by one man, the company says. For details, check No. 6060 on the coupon and mail.

No. 6057—Fork Lift Booklet

The Model 590 Towmotor fork lift truck called the "Naro-Aisle-Stack" is described in an 18-page booklet released by Towmotor Corp. Illustrated are the truck's 180° pivoting action, plus its control features and components. A typical space-saving situation, where 16 extra rows of storage space is gained, is covered, the company says. A method of power application for fork lift trucks, based on a principle of hydrostatics, is covered in detail. For copies, check No. 6057 on the coupon and mail.



DEMONSTRATOR

(Continued from page 9)

no selling is needed to show a prospect the value of fertilizer; and the farmer who has treated a few acres as an experiment sees the difference at once.

Mr. Kelly then takes colored photographs of typical farms showing the three or four rows of untreated grain or cotton between rows under which fertilizer was distributed. He takes these pictures during various stages of the crop growth, from the time when development is sufficient to reveal a difference in the rows right through to harvest time.

He pastes the pictures in a sales book. Under each picture or set of crop progress shots he shows the name of the farm owner, and the amount of fertilizer used. When he is able to compile comparative yield figures, he enters these also as a part of the picture captions.

One set of pictures shows, for example, the progress of a grain crop on a local farm, with the unfertilized rows standing out conspicuously from the first picture right up to the final shot just before the grain was combined, and the production figures reveal that the fertilized rows produced 2,300 lb. more maize to the acre than those alongside without fertilizer.

"These pictures and figures have helped us a great deal in selling farmers on the idea that regardless of the fertility of the soil, the proper fertilizer can make it more productive," Mr. Kelly explains. "But even more convincing than the pictures is for a farmer to plant a few acres under fertilization and watch the results—or watch the results on his neighbor's farm."

Even though a customer may be fully sold on the use of fertilizer, the company asks him to leave a few rows unfertilized in each field, to serve as a constant reminder to him of the value of fertilizing and to serve as a demonstration to neighbors.

"We simply try to make every customer a perpetual demonstrator, regardless of how well he is sold on fertilizer," Mr. Kelly explains. "The more customers we have who leave a few untreated rows in each field, the less resistance we have in selling the fertilizer idea."

The company provides three distinctive services to fertilizer customers, each tailored to fit a definite local need.

To the owners of large farms, the plan whereby the customer buys his own applicator and handles his own fertilizer distribution is most attractive. He is encouraged to buy an applicator, or more than one if his farm is large enough to require additional units. He may buy a unit on credit and take as long as three years to pay for it—without interest.

"To the average such customer," Mr. Kelly explains, "we recommend that when he buys his anhydrous ammonia he simply pay us 1¢ a pound more than the regular price, the 1¢ to be applied against the note covering the purchase of the applicator. The average customer likes this plan."

A second plan that appeals to the owners of smaller farms provides for the rental of an applicator, at the rate of 50¢ per acre of land treated. If the farmer owns a place of modest acreage, this plan is more attractive than tying up money on the purchase of an applicator, Mr. Kelly finds.

A third plan also appeals to small-farm customers and provides a custom application service. The company has several customers who own small farms but have bought applicators not only to use on their own places but also for applying fertilizer on other small farms.

Such a customer furnishes the applicator and does all the work entailed in applying the fertilizer at a flat rate of $1.25 per acre. Although these customer appliers are not connected with the company, they do work closely with the management for mutual benefit. The company is able to promise the custom service to customers who desire it, and the applicators sometimes can tip off the company about prospective fertilizer customers. And of course the small farmers who prefer to utilize the custom service appreciate the combination available.

New Grain Varieties In Canada Prompt Increased Fertilizer Use

WINNIPEG—The use of fertilizer in western Canada has been promoted largely on the basis of maintaining or improving soil fertility. But this is not the whole story, states H. J. Mather, assistant director, Line Elevators Farm Service. New varieties of grain crops with very high yield potential have been developed. These varieties require more plant food than the old varieties if their maximum yield potential is to be utilized. This means higher rates of application of the necessary fertilizers, which in turn will result in higher yields per acre. And more bushels per acre can mean lowered unit cost of production. Even with the older varieties and relatively low rates of fertilizer applications some very interesting results have been obtained, Mr. Mather adds.

"Some farmers refuse to consider the use of fertilizer on the basis that, by its use, they would increase total production of cereal grains. This is not necessarily the case. A farmer by reducing the unit cost of production through the proper use of fertilizer can reduce the acreage of cereals he grows and still obtain the same net returns he would be able to obtain by seeding a much larger acreage without fertilizer," he says.

Mr. Mather points out, it is now quite evident that, in many parts of western Canada, seeding will be delayed considerably this year owing to the lateness of the spring season. It is well, therefore, for farmers to remember that fertilizers assure earlier maturity of grain crops, thus reducing the hazards of frost. Five to 10 days earlier ripening is common experience. This year, then, the use of fertilizer could very well mean the difference between a good crop and one in which the yield and the grade are seriously reduced by frost, he says.

Nitrogen Increases Grain Sorghum Yields In Arkansas Tests

FAYETTEVILLE, ARK. — Yields of grain sorghum were increased by 40 lb. of grain per pound of nitrogen applied in 1959 tests in eastern Arkansas.

Dr. J. L. Keogh and Richard Maples got 1,245 lb. more grain an acre from 30 lb. of nitrogen than from no nitrogen. The researchers are assistant agronomists with the Eastern Arkansas Branch Soil Testing and Research Laboratory at Marianna, which is a part of the University of Arkansas' Agricultural Experiment Station.

In tests during 1958 and 1959, increments of nitrogen up to 90 lb. an acre increased yields. However, the difference between the 60 and 90 lb. levels was not significant. The 120 lb. rate depressed yields.

In three of five tests, the 30 lb. rate of nitrogen gave significantly higher yields than no nitrogen. The 60 lb. rate, however, significantly increased yields over the 30 lb. rate.

Happiness in marriage may depend upon whether the parties consider a wedding ring a symbol of love and affection or a place for staging fights.

◆ ◆ ◆

A posse had just captured a horse thief and were preparing to string him up. One member of the crowd spoke up. "May I say a prayer for this man?"

The deputy in charge of the posse protested vigorously. "Are you trying to sneak this varmint into heaven when he ain't even fit to live in Texas?"

◆ ◆ ◆

Stranger: "Say, I need help. Do you have a criminal lawyer in this town?"

Native: "Well, we're pretty sure we have, but we can't prove it."

◆ ◆ ◆

"If there's anything wrong with me," the foreman told his doctor, "don't frighten me by giving it a scientific name. Just tell me what's wrong in plain English."

"Well, to be frank," said the doctor, "you are just plain lazy."

"Thanks," sighed the patient. "Now give me a scientific name for it so I can go home and tell the wife."

◆ ◆ ◆

A sergeant in charge of the new recruits ordered: "Men, when I blow the whistle, I want you to shoot at will."

At that moment one very frightened young man ran across the grounds out of sight.

"Who was that? Where's he going?" bellowed the sergeant.

"That was Will," replied one of the recruits.

◆ ◆ ◆

The premier of Red China complained to Nikita Khrushchev because "we're running out of countries to sneak into."

"You want Tibet?" Mr. K asked.

◆ ◆ ◆

Hubby came down to breakfast and wifey asked him if he knew what day it was.

"Why it's Tuesday," he replied.

"I knew darn well you'd forget," replied wifey. "We have been married 25 years today—can't we celebrate?"

"Oh yes," said hubby sarcastically, "we'll have two minutes silence."

PLANTS 'GULP' FOOD?

BERKELEY, CAL.—Two University of California scientists believe the possibility that plants may be able to use large organic molecules in soil as fertilizers for nutrition and growth must be re-examined in view of their recent observations.

They have demonstrated that plant roots and cells readily take in large protein particles or macromolecules. This casts doubt on the classic theory that plant cells are surrounded by a membrane which easily absorbs the small ions of such inorganic substances as nitrogen, phosphorus, sulfur, calcium, magnesium, and potassium, but allow macromolecules to enter only with great difficulty or not at all.

The finding was made by A. Douglas McLaren, professor of soil chemistry, and William A. Jensen, assistant professor botany, on the Berkeley campus. They believe that the protein enzyme molecules may be absorbed into the root cells by a "drinking" process called pinocytosis.

The intake of intact protein molecules by animal cells through this method is well-known, but it has not previously been observed in plant cells. In pinocytosis, the molecules enter invaginations or channels in the cell membrane and are taken inside in gulps. The scientists are continuing their study.

(See Story on page 9)

OTHER STEPS IN THE Mid-South Chemical Corp.'s credit card system include the distribution of equipment needed by distributors and dealers. Here Harvey Robinson (top photo, right) shows C. B. Owen of O & I Fertilizer Distributors, Taft, Texas, the file which Mr. Owen will keep in his office. The cards on this file are duplicates of the customer cards. The center photo shows how invoices are stamped. All four copies are stamped at one time, and there can't be any mistake about the account, Mr. Robinson says. The lower photo shows a customer handing Mr. Owen his credit card after a purchase.

Intensified Soil Testing Program in Texas Boosts Interest in Fertilizer Use

BIG SPRING, TEXAS—An intensified soil testing program by the Texas Agricultural Extension Service has created much interest in using fertilizer, according to county agents.

The Extension Service has 12 pilot counties in Texas where soil fertility and soil sampling are being stressed. This has also caused a flood of soil samples being sent to the Texas A & M soil testing laboratory.

During January, February, March and April of 1959 the laboratory processed 4,241 samples, but the first four months of 1960 had a total of 8,281.

Dr. William Bennett, soil chemist with the Extension Service, said that in the current cost-price squeeze farmers are attempting to reduce the expenses by applying the proper kind and amount of fertilizer instead of using it indiscriminately and hoping for the best.

Another reason for the increased interest has been caused by more favorable moisture conditions than in previous years.

Nevada Fertilizer Sales

RENO, NEV. — Fertilizer sales in Nevada during 1959 amounted to 5,353 tons, reported the Nevada State Department of Agriculture. Most popular grade was 16-20-0, with 837 tons sold.

Water Penetration Aid Tested in California

BERKELEY, CAL.—A new device to increase water penetration in soil will probably hit the market next year, according to the Pure Carbonic Co. of Berkeley.

The company, which is better known for producing carbon dioxide for soft drinks, has been developing an injector which will inject the gas into water as it leaves the pump in the field. The carbon dioxide will form carbonic acid with the water. The acidity apparently helps penetration, especially in alkali soil.

Pure Carbonic engineers are now running tests in the Bakersfield area of California and plan more tests near Fresno and possibly Salinas. The company is trying to find out exactly how acid the water should be to get best results.

The discovery of the process was caused by accident. Pure Carbonic has been producing a device which would make water acid for farmers for some time. However, this was used before the water entered the pump, in order to fight alkaline scale which causes pumps to freeze. About a year and a half ago some farmers noted that, not only were the pumps lasting longer, but the crop yields were improved.

Heavy Twig Borer Infestation Prompts Warning

SACRAMENTO, CAL.—In view of an unusually heavy infestation of twig borers in last year's peach crop, Solano County peach growers have been alerted to spray during petal fall.

James DeTar, Solano County farm advisor, said a second spray should be applied in May in localities where the borers produced serious amounts of wormy fruit last year.

SEAWAY PROBLEMS?

LANSING, MICH.—The St. Lawrence Seaway might create serious problems in plant disease control for Michigan. That fear was expressed by officials of the Michigan Department of Agriculture.

To battle this threat, Gov. G. Mennen Williams has recommended that Michigan increase its budget for its plant disease control operations.

The governor believes that the best way to be sure the trouble is kept at the lowest possible point is to beef up protective groups with more manpower.

"The St. Lawrence Seaway creates a completely new and complex source for introduction of new plant pests and diseases," Gov. Williams said.

Mississippi Watershed Gets Final Approval

YAZOO CITY, MISS. — Final approval for the watershed in the Bentonia area, to cost over a million dollars and covering nearly 25,000 acres, has been given. It is believed that construction will be started this summer.

Included in the plans will be nine floodwater retarding dams which will help in reducing the flooding of creek bottom land in order to put it in cotton production.

The project will be paid for through a combination of federal government funds, local funds, and taxation. Broken down the cost of $1,047,956 will be distributed thus: federal government, $595,645; local funds, including land values, rights of way, administration and land treatment, $452,311. The Bentonia watershed commissioners have the power to tax the 117 landowners who will benefit for their share in maintenance.

FARM SERVICE DATA

EXTENSION SERVICE REPORTS

You have to feed your corn crop all season long, if you are shooting for high profit, low cost yields.

On a low-fertility soil, this means a plow-down application of nitrogen, phosphate and potash plus a row fertilizer at planting time, reports Dr. Joseph A. Stritzel, Iowa State University extension agronomist. The nitrogen portion may be sidedressed after the corn is up if desired.

Dr. Stritzel advises farmers to think in terms of the corn crop's over-all nutrient needs, rather than in terms of one single nutrient. It is very important to achieve the proper nutrient balance for the crop and soil concerned.

For most efficient fertilizer use, good management is essential. Stands should be adequate, compaction should be avoided, well adapted seed should be used and weeds, insects and diseases should be controlled.

"A corn grower wants good early growth and he wants sustained growth after he gets the early growth," Dr. Stritzel pointed out.

Row fertilizer to start the corn off well and give it a good root system should supply nitrogen, phosphate and potash in a 1:4:2, 1:4:4 or other comparable ratios, Dr. Stritzel said. So far as Iowa is concerned, the water soluble phosphate in the fertilizer should be 50% or more. The row fertilizer should be placed to the side and somewhat deeper than the seed.

Plow-down of phosphate-potash fertilizer has the advantage of getting a wide distribution of these relatively immobile nutrients throughout the soil. It is desirable to have readily available phosphate and potash in the "zone of water absorption" as much of the time as possible, Dr. Stritzel said.

Sidedressing of nitrogen may have advantages over plow-down, according to Dr. Stritzel.

"When you sidedress nitrogen, you know what kind of a corn stand level you have and can adjust your rate of application accordingly," he said. "If you plow down the nitrogen ahead of time and your stand is reduced by insects or other causes, you might not get as effective use of all the nitrogen applied. Sidedressing is best done by the time the plants are 12 to 15 in. tall."

★

How $8 worth of fertilizer produced 19 extra bushels of wheat was described by Dr. Floyd Smith, Kansas State University agronomist, in a statement summarized in Chicago by the National Plant Food Institute's midwest office.

Dr. Smith reports that in 1959 tests near Hutchinson, Kansas, on unfertilized wheat produced only 13.7 bu. an acre. But when 200 lb. of a high-nitrogen 16-20-0 fertilizer was applied, the yield increased to 32.6 bu. an acre.

"Moisture was ample during the growing season," says Dr. Smith. "The soil was well supplied with potash. The nitrogen-phosphate fertilizer was applied at planting time with a combination grain and fertilizer drill."

Discussing the 1960 wheat crop outlook generally, Dr. Smith says there is still time to topdress fields that need nitrogen fertilizer. Such applications can be highly profitable this year.

"Experience indicates that returns of at least $2.75 can be expected from each $1 invested in needed nitrogen fertilizer for wheat," he says.

"The amount of nitrogen to apply to wheat will depend on how much you added at seeding time last fall and how much straw and stalks you plowed under after harvest.

"As a general rule, about 50 lb. of nitrogen fertilizer an acre can help give top profit wheat yields. If the farmer plowed down unusually heavy amounts of straw, then he may need to add up to 60 lb. of nitrogen an acre. If he turned under small amounts, then only 40 lb. may be needed."

Dr. Smith says the moisture outlook is extremely favorable for crops this year.

★

It pays to suit corn plant population to the soil's fertility levels, reports the National Plant Food Institute's midwest division.

"You get maximum efficiency from fertilizer when you have a good stand of corn," says NPFI in citing studies by Dr. Gordon Ryder, Ohio State University extension agronomist.

A corn population of 16,000 to 18,000 stalks an acre can mean 20 to 30 more bushels an acre than might be obtained with 10,000 to 12,000 stalks in average to good years, according to Dr. Ryder.

To get a corn stand of 16,000 to 18,000 stalks, a farmer needs to set the corn planter at about 20,000 to 21,000 seeds an acre, he says.

In Minnesota tests corn yields were increased about 26 bu. an acre with a stand running 16,000 to 18,000 stalks an acre, when sufficient fertilizer was added to feed the crop.

Summing up the "how-to-do-it" aspects of money-making corn production, Minnesota soils specialists say:

"If you plant a large population it is profitable to add heavy amounts of fertilizer. On the other hand, it is unprofitable to have a small plant population with heavy applications of fertilizer, or a large population with insufficient amounts of plant food.

"In addition to fertilizer, you need to use improved tillage and management methods. Also, you need to plant a hardy, early maturing, high yielding hybrid and to control weeds, diseases and insects."

★

Farmers shouldn't believe claims that one kind of nitrogen fertilizer is much better or worse than others.

Instead, they should check the bag label where it says "plant food analysis." The amount of total nitrogen in the fertilizer is the important thing. Form of the nitrogen, though, whether it's ammonium nitrate, urea, anhydrous ammonia, or nitrogen solutions, makes little difference as long as the fertilizer is properly applied.

Any nitrogen fertilizer will probably lose some nitrogen after applied to a field, according to J. M. MacGregor, soils scientist at the University of Minnesota. The type of loss varies. Some fertilizers lose it through leaching below plant roots, some to the air.

Total nitrogen loss in Minnesota, however, doesn't vary much among different kinds of fertilizer—despite some claims to the contrary.

So the end result on non-legume crops is about the same with any form of nitrogen, as Mr. MacGregor has found in years of research.

On oats fields with sandy soil, Mr. MacGregor found that 40 lb. of nitrogen in both ammonium nitrate and urea form produced yields of 20-23 bu. an acre, compared to 13 bu. in unfertilized fields.

At 80 lb. of actual nitrogen, oat yields went up to 26-28 bu. an acre. But again, whether the nitrogen was from ammonium nitrate or urea made no measurable difference.

The same story held for corn. Field trials in west central Minnesota showed that pound for pound of nitrogen, corn yield increases from urea, ammonium nitrate, anhydrous ammonia and nitrogen solutions all were about the same. The only exception was that anhydrous ammonia was a bit less effective than other forms on sandy loam soil.

Some people have claimed that urea fertilizer loses so much nitrogen to the air that it isn't as effective as other forms. Mr. MacGregor checked this in the laboratory, and here's what he found:

When a rate equal to 100 lb. of urea fertilizer an acre was put on the surface of a silty clay soil, only 3% of the nitrogen escaped as ammonia gas over a 4-week period. The loss on a sandy loam over a 2-week period was 6% for surface application and 4% where the urea was covered with a half inch of this soil.

These losses aren't great enough for much concern, Mr. MacGregor says. The crop recovers anywhere from 25 to 75% of the nitrogen, but usually no more than half the year the fertilizer is applied. And amount of total nitrogen recovery in the crop isn't affected much by type of nitrogen fertilizer.

So in Minnesota, at least, Mr. MacGregor says the end result on crops other than legumes will be about the same per pound of nitrogen applied—regardless of the form.

★

Minnesota is far from having a "balanced budget" where plant food use is concerned.

Farmers aren't putting as much fertilizer plant food back in the soil as their crops are taking out.

A pair of extension men at the University of Minnesota estimate that in 1957, for example, 238,000 tons of potash were removed in the harvest of hay and major grain crops. Only a small fraction of this total removed in grain was returned in manure and farmers returned only 52,500 tons of potash in fertilizer form.

That left a "potash deficit" of near 185,000 tons for that year. The deficit was about the same for nitrogen, but only a third as great for phosphate.

Merle Halverson, soils specialist, and Paul Hasbargen, economist, made the estimates. Their "balance sheet," they say, shows room for a good deal more increase in fertilizer use in Minnesota.

Gopher state farmers are stepping up fertilizer use, but not as fast as some other midwestern states.

Since 1951, total cost per pound of plant nutrients has gone down 8%, Mr. Halverson and Mr. Hasbargen say. At the same time, fertilizer and lime purchases increased from 2.3% to almost 5% of the total farm operating expenses in Minnesota.

By comparison, fertilizer accounts for 7% of farm costs in Wisconsin, 8.7% in Illinois and 12.8% in Indiana.

State Department of Agriculture figures show that total fertilizer use in Minnesota jumped 120% from 1951-58, based on pounds of total material. If you figure actual plant nutrients, the increase was 178%.

Farmers are buying more nitrogen and potash, in comparison to phosphate. And well they should, when you look at the "fertilizer deficit" figures, the specialists say. The average ton of actual plant food in 1958 contained 15% more nitrogen than in 1951.

New Mexico Shipments

UNIVERSITY PARK, N.M.—Fertilizer shipments into New Mexico during the first three months of this year totaled 20,476 tons, according to the state Feed and Fertilizer Control Office. The total included 1,628 tons of anhydrous ammonia, 734 of ammonium nitrate, 1,151 of ammonium sulfate, 1,589 of urea compound, 4,977 of 46% superphosphate, 626 of 45% super and 5,401 of 20% super. Most popular mixed grade was 16-20-0 with 1,970 tons.

OSCAR & PAT

By AL P. NELSON

Saturday was pay day at the Schoenfeld & McGillicuddy Farm Supplies Co. On that day, the employees were usually very cheerful. No matter what their individual problems, the thought of getting a sizable check at noon made most employees actually jovial. "This is the day the ghost walks," Red Corcoran said happily, as he loaded bagged fertilizer on a waiting farmer's truck. "Man, can I use it, too. My old lady's a spender."

"And so are you," put in Pete Schmidt, a saver. "You're just like Pat—empty pockets."

"Yeah, but he has a lot of fun," said Red. "You're like Oscar. You hate to spend it. That's why you're so sour most of the time. Live it up a little."

Thus it went—always on Saturdays. The noon whistle blew and expectantly the employees marched into the salesroom. Oscar, with a frown on his face (he always frowned when he wrote out checks) was just finishing the payroll. The employees stood waiting, and Pat who sat at his desk near Oscar looked irritated.

Finally Oscar had the last check signed and then handed them to Pat. With a smile on his face, Pat handed out the checks to the employees. "Here's what you've been waiting for, boys," he said. "Be sure to be in shape for work Monday morning."

The men took the checks, grinned and made wisecracks about spending, then went into the warehouse. The farm store would be open in the afternoon, but not the warehouse section. Pat and Oscar worked Saturday afternoons, selling small merchandise in spring.

Pat walked back to his desk, a frown on his face. "Where's my check, Oscar?" he asked.

A thin smile overspread Oscar's face. "McGillicuddy," he said coldly, "there iss no money to pay you andt me this week. There was chust enough money to pay the employees. We will chust haf to wait."

"Wait?" echoed Pat. "Holy cow, I need that money. I have bills to pay, and my checking account is low. And Kathleen, my girl, wants her pony this afternoon. I promised her I'd buy her one—" he stopped, seeing the expression on Oscar's face.

"McGillicuddy," Oscar said sharply, "there iss no money you can get from this company this week. You will chust haf to charge what you buy—just like lots of the farmers who buy fertilizer from us."

Pat's face went a little white. "So that's the angle, eh? You are just trying to get back at me for not going out and collecting more often. Well, you don't have to be in such a hurry to discount all our bills, either. Then we'd have some money on Saturdays. My God, a man has to get paid."

"It don't hurt me to wait for my salary," Oscar put in. "I can lif. I have got money safed. Minnie and me lif right. Andt on the discounts, wake up, McGillicuddy. We get 2% on lots of bills if we pay by the 10th. There are 12 months in a year, yah? That means 24% a year. Can you make money any easier than that?"

"You should have told me yesterday there would not be enough to pay our salaries," Pat snapped. "Then we could have made a loan at the bank. But they're closed now."

"Loan at the bank? McGillicuddy, such a loan wouldt cost us 6%. What is the use to sell fertilizer to farmers and let them take their time payink, and not even charge them interest? And then go andt pay the bank 6% for a loan to pay salaries. What kindt of a business is that?"

Pat began to sweat a little. "Well, that's the way most men run their businesses. They borrow from the bank when they need to."

"The kindt of a businessman who is borrowink from the bank all the time is shaky," Oscar said acidly. "If a company keeps up its collections, then it has got some workink capital. Know what that term means, Irisher?"

"Of course, I know what that means," Pat snapped. "But you know I have to devote a lot of time to selling. Selling is the lifeblood of a business. Without it a firm will shrivel and die."

Oscar shook his head. "Sellink is nottink if you don't collect. That is why I say, let them pay cash. That protects us. You are too easy, Irisher. You schlap on the back if a man pays or not. It is our money you are giffing away to farmers in bags of fertilizer. Andt they take their time to pay."

"Well, I'll go out Monday morning first thing and collect," Pat promised. "Can't you issue a check and then we can deposit collections Monday to cover? Or get a bank loan?"

Oscar stubbornly shook his head. "Neffer. I don't belief in covering checks. If the money ain't in the bank, ach, no checks."

Pat looked baffled and angry. His fists clenched and unclenched and his face was red.

Oscar was enjoying Pat's discomfiture. "You need some trainink in finance," he said sharply. "I haf a lot of booklets on how to collect, and some that tell of the depressions the country has hadt since 1893. Maybe you can learn somethink."

"If I could find a buyer I would sell my interest in this business right now!" Pat exploded angrily. "I've just about come to the end of the rope."

"Ach, I dropped off the endt of the rope a long time ago," Oscar snorted. "Way back when I saw how I hadt to nak and nak you to go oudt and collect instead of schlapping backs andt sellink. But if you needt your salary, I will agree to somethink today."

Pat turned unbelievingly, but said nothing.

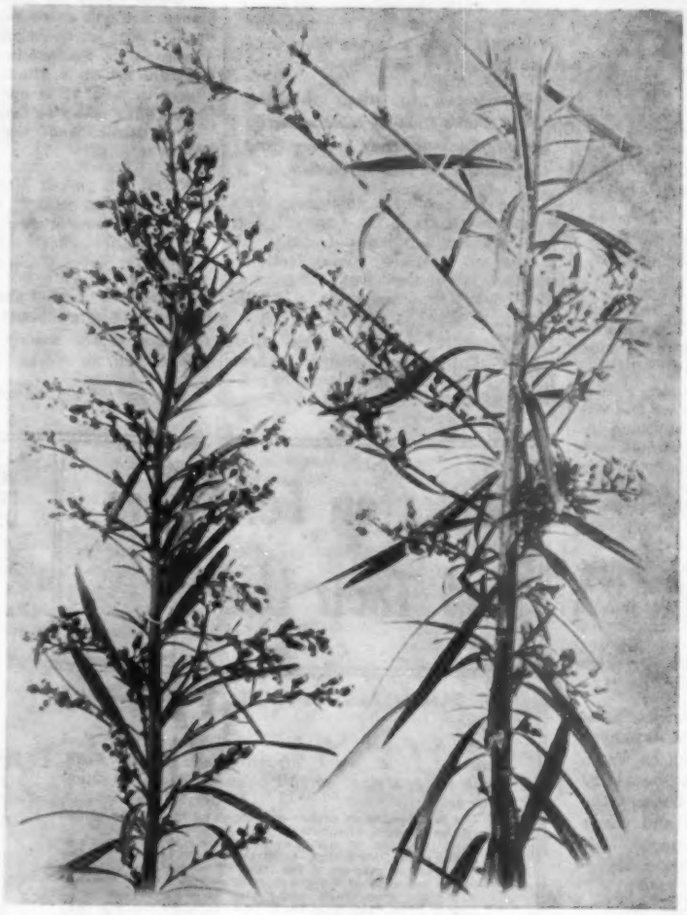
"I am goink home for lunch now," folks will come in for schtuff this afternoon. Whatever you sell for cash, I will agree you can keep toward your salary. Me, I can wait until Monday or Tuesday for my salary. Minnie and I don't needt it that bad. We got it." And Oscar patted his pocketbook. "We have neffer spendt more than we earn."

WEED OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

Horse-weed

(Erigeron canadensis)



How to Identify

Horseweed is an erect plant, growing to heights as tall as 6½ ft. They have a fibrous root system, and leaves are alternate, simple, short-petioled, and hairy. Flowers are small, in composite heads, the disk flowers whitish, and the ray flowers are small, hardly larger than the disk flowers. The plant flowers from June to October, and seeds from July to November. Its distribution is general throughout the U.S., an exceptionally common and abundant weed. It takes over abandoned fields quickly, particularly in the summer. Aside from its common name of horseweed, the plant is otherwise known as "Canada Fleabane" and "Mare's-Tail."

Damage Done by Horseweed

This aggressive weed is quick to "take over" pasture lands, crowding out valuable plants and, of course, using water, light, and soil nutrients that could be put to much better use for the furtherance of other crops.

Habits of Horseweed

An annual plant, horseweed is reproduced by seeds. Although it is native to grassland, it spreads freely to waste places, including roadsides, fields and gardens. A large number of tiny white flowers are produced by each plant, and the flowers form a loose head on the top of the plant. The seeds are slightly curved, and have a number of parachute-like yellowish-brown bristles on one end which allow them to be carried by the wind, thus spreading the plant over much broader areas.

Control of Horseweed

Both chemical herbicides and cultural methods may be employed for control of this weed. In the latter, state authorities have recommended that the plants be mowed when the first flowers appear, thus preventing seeds from being produced. Since horseweed appears largely in pastures, chemical control comes under provisions of Federal Law regarding residue tolerances. Although there are a number of effective chemical compounds available for control of horseweed, their use should be undertaken only after consultation with local authorities.

Illustration of Horseweed furnished Croplife through courtesy of U.S. Department of Agriculture.

Pacific Northwest Fertilizer Group Tells Program Plans

SALT LAKE CITY, UTAH—Program plans have been announced for the 11th annual Pacific Northwest Regional Fertilizer Conference, to be held July 13-15 at the Hotel Utah, Salt Lake City.

Highlights of the program include discussions on:

- Soil-root Interface, by Cecil Waddy, Agricultural Research Service, Beltsville, Md.
- New Developments in Nitrogen Research in the U.S., by Frank Viets, ARS, Fort Collins, Colo.
- Application of Basic Research Findings to Phosphate Fertilizer Practices, by Sterling R. Olson, ARS, Fort Collins.
- Panel discussion on "Shooting for Efficient Production on Non-irrigated Pastures and Rangeland," with Malcolm McVickar, California Spray-Chemical Corp., Richmond, Cal., as moderator.
- Panel discussion on "Fertilizer Effects in Mountain Meadow and Irrigated Pasture Production," with Bill Brissenden, J. R. Simplot Co., Pocatello, Idaho, as moderator.
- A field trip to the Agronomy Farm, Utah State University, Logan, Utah.
- Address on Zoning of Land for Agriculture, by Dean D. G. Aldrich, University of California.

The three-day program will conclude with a series of discussions on local experiments by area extension, college and industry personnel.

Land Purchased for New Superphosphate Facility

MORRIS, ILL.—Purchase of a parcel of land four miles west of Morris, as the site of a new superphosphate plant, has been announced by D. R. Gilchrist, owner of Gilchrist Plant Food Co. of Morris.

According to W. E. Lewellyn, plant superintendent, construction will begin immediately and actual production is expected to be under way this fall. Capacity of the new plant will be in excess of 20,000 tons of run of plant material and pelleted superphosphate, according to L. C. Schuler, head of the company's sales department.

FERTILIZER

(Continued from page 1)

while the number of employees had shrunk about 2%, the payroll was up 10%. In 1954, it was $111.5 million and in 1958, $122.7 million.

Reflecting the introduction of labor-saving equipment, the number of production workers dropped 9%; from 24.6 thousand in 1954 to 22.4 thousand five years later. In similar fashion, the man-hours were reduced 14%. In 1954, they amounted to 53.1 million, and in 1958, 45.5 million.

Wages were also on the increase during the period in question. In 1954, the report says, the amount paid out for this purpose was $76.9 million; in 1958, the figure had risen to $80.8 million, an increase of 5%.

The unadjusted value added by manufacture was up 14%. This figure is gained by calculating the value of products shipped, less cost of materials, supplies, fuel, electricity, and contract work. This amount for 1954 was $252.4 million as compared to $288.3 million in 1958.

The value of shipments themselves, was increased by 5% also. The 1954 figure was $1,001.2 million, and for 1958, it was $1,055.9 million, making an increase of $54.7 million.

Capital expenditures were reduced by 29% during the five year period, dropping from $46.6 million in 1954, to $33 million in 1958.

Dempster Names New Executive Vice President

BEATRICE, NEB.—The election of Lee B. Dimon of Minneapolis as executive vice president and general manager has been announced by Dempster Mill Manufacturing Co. of Beatrice, Neb. Mr. Dimon was formerly an executive of Minneapolis-Moline. He is a native of Minnesota. Mr. Dimon was also named general manager of Habco Manufacturing Co., a wholly-owned Dempster subsidiary, at Columbus, Neb. In this position he succeeds C. A. Olson who served in that capacity since the acquisition of Habco by Dempster, in 1958, and who will now return to the parent firm.

Lee B. Dimon

The 82-year-old Dempster firm manufactures a wide range of agricultural water systems as well as fertilizing equipment.

Amchem to Market 'Sesone' Herbicide

AMBLER, PA.—Amchem Products, Inc. of Ambler recently took over the responsibility for sales and further development of "Sesone," a herbicide designed to prevent annual broadleaved and grass weeds in nursery stock, strawberries, peanuts and other crops and plants. It will be available in 2 lb. bag size and in 50 lb. drums.

"Sesone" is sprayed directly on growing nursery stock, and other plants as specified on the label. It becomes active only when it makes contact with moist soil and is claimed not to burn the leaves. It must be applied before the weeds emerge; weeds are killed as they sprout.

Collier Names New Area Agriculturalist

LOS ANGELES — Appointment of Warren Mallory as northern area agriculturalist was announced by Collier Carbon & Chemical Corp., manufacturer of Brea Brand fertilizers.

Warren Mallory

Mr. Mallory will be headquartered in Yakima, Wash., at Collier's area office for agricultural chemical marketing in Washington, Oregon, Idaho and northern California. Mr. Mallory was formerly associated with the agricultural research group at Washington State University, where he received a bachelor of science degree in agronomy.

Dr. W. E. Bickley Heads Mosquito Control Group

BOSTON—Dr. William E. Bickley, head of the Entomology Department, University of Maryland College of Agriculture, was recently chosen president-elect of the American Mosquito Control Assn. at a meeting here. He will take office Jan. 30, 1961, and will preside at next year's annual meeting of the organization in Anaheim, Cal.

At the Boston meeting, Dr. Bickley presented a research paper on "Current Knowledge of Eastern Encephalitis in Maryland." This work was done in cooperation with Dr. Robert J. Byrne, Department of Veterinary Science, University of Maryland.

Dr. Bickley reported that in working with eight species of mosquitoes the virus was not isolated. Main emphasis of the study was to find out the food habits of different species of mosquitoes in an attempt to find out how they might transmit the disease to men and other animals. Mosquitoes are believed to carry the disease from birds to other birds, and from birds to man and horses. It is known that the disease is not transmitted by mosquitoes from man to man, nor from horses to man.

Only two laboratory-confirmed cases in humans have been found in Maryland—one in 1956 and the other in 1959. In horses the disease is commonly referred to as "blind staggers." The disease virus over-winters in birds, which are not affected by encephalitis, Dr. Bickley says.

Forms Corporation

ALBUQUERQUE, N. M. — Sherman's, Inc., P.O. Box 116, has filed articles of incorporation listing $100,000 capitalization to deal at wholesale and retail in all kinds and types of chemical, scientific, agricultural equipment and materials. Incorporators are George C., Ormajene S. and Frank W. Sherman.

Geigy Appoints Western Sales Representative

ARDSLEY, N.Y. — Geigy Agricultural Chemicals division of Geigy Chemical Corp. has appointed G. Poletis as sales representative in eastern Washington, northern Idaho and western Montana.

G. Poletis

Mr. Poletis comes to Geigy from California Spray-Chemical Corp. where his territory was the western part of Colorado. He received a B.S. degree in entomology at Oklahoma State University where he also did graduate work in microbiology and entomology. He has also worked for the U.S. Department of Agriculture on cotton insect surveys in Oklahoma.

ENTOMOLOGIST WINS AWARD

BERKELEY, CAL. — Edward A. Steinhaus, director of the University of California laboratory of insect pathology at Berkeley, has been awarded a Guggenheim Fellowship for research in the field of entomology.

Mr. Steinhaus will employ the grant for studies toward a unified system of diagnosing insect diseases.

He will leave Berkeley in September to conduct at least six months of research in Japan, Australia and the eastern U.S.

He pioneered the study of insect pathology as a distinct entomological discipline with widespread applicability in the manipulation of insect population for man's advantage.

In 1945, he organized the Berkeley laboratory of insect pathology—said to be the first of its kind in the world.

Helicopter Spray Service Started in North Dakota

FARGO, N.D. — Wayne Turner of Arthur, in Cass County, has announced establishment of North Dakota's first helicopter service for crop spraying to be known as Turner Helicopter Service, based temporarily at the Hector Airport here.

Mr. Turner invested $30,000 in a Brantley Helicopter with capacity of one passenger besides the pilot and an overall payload of 690 lb.

He is working with the Federal Aviation Agency to set up rules for flight patterns and landing procedures.

Besides crop spraying, the service will offer to perform aerial photograph, municipal insect control, power and pipeline control, emergency transportation and charter service.

New Organic Phosphate Insecticide Is Announced

MADISON, WIS.—A new organic phosphate insecticide with the proposed generic name of butonate has been announced by the Wisconsin Alumni Research Foundation, Madison. Developed by Dr. J. E. Casida and Dr. B. W. Arthur at the University of Wisconsin, butonate has recently received an experimental permit for extended field tests.

Because of its low mammalian toxicity, butonate is described as "likely to prove to be among the least hazardous of the residual insecticides," the foundation said. The chemical name of the compound is O,O-dimethyl 2,2,2-trichloro-l-n-butyryloxyethyl phosphonate.

The new compound may be applied as a space spray or as a residual insecticide. It can be formulated as an emulsion, wettable powder, dust, oil spray or aerosol.

To Consider Grades

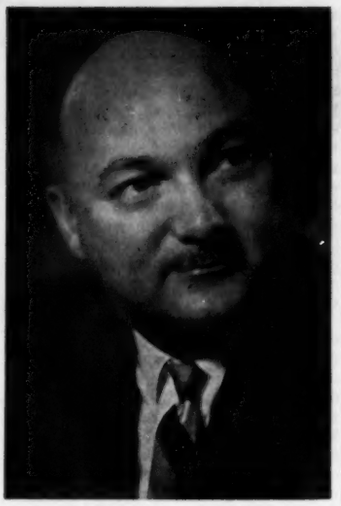
RALEIGH, N.C. — Announcement is made by L. Y. Ballentine, agriculture commissioner, that the State Board of Agriculture will consider the official fertilizer grade list for 1960-61 at a public hearing in Raleigh June 1.

The commissioner made known that the board also will review regulations governing insecticide-fertilizer mixtures and other regulatory matters affecting the fertilizer industry.

As noted, the North Carolina fertilizer law requires the board, before July 1, to establish each year a list of official fertilizer grades which may be sold in the state.

MOVES SALES OFFICE

MEMPHIS, TENN.—W. R. Grace & Co., Grace Chemical Division, has moved its Southeastern district sales office from Tampa, Fla., to 1402 E. Morehead, Charlotte, N.C. Lee Slusher will continue as Southeastern district sales manager. He will make his home in Charlotte.



D. C. Mumby

CANADIAN APPOINTMENT—D. C. Mumby has been named manager, Agricultural Chemicals Ltd., Orangeville, Ont. He has been in the agricultural chemical industry since 1946 when he was released from four years service with the Canadian army.

Industry Employment Gains in California

SAN FRANCISCO — Employment of persons involved in the manufacture of agricultural chemicals increased from an average of 3,000 during the winter of 1958 to around 3,100 for the first three months of 1959 in the state, reports the division of statistics and research of the California State Department of Employment.

The number of firms processing agricultural chemicals declined slightly from about 115 to 112 during the same period, according to the estimates. Quarterly wages paid out by these firms for the respective January through March periods were $4,046,443 for the earlier period, and $4,242,143 for the later.

Wholesalers of various kinds of farm products, including agricultural chemicals increased in number from 216 to 249 during the same period, but employment nonetheless held almost even at around 2,900 persons for both winter quarters. Respective total quarterly wages were up from $3,349,183 to $3,507,563.

Sevin Gets Approval for Tomato, Pepper, Eggplant

NEW YORK — Sevin insecticide has been granted label acceptance by the U.S. Department of Agriculture for use on tomatoes, eggplant and peppers, according to R. H. Wellman, manager of Crag Agricultural Chemicals, Union Carbide Corp. The new carbamate insecticide was used by growers in 1959 for the first time to control insects on potatoes and beans.

Mr. Wellman said that "tests indicate the insecticide is safer to handle than DDT, and causes no off-flavors. It may be applied up to the day of harvest. Growers who harvest vegetables over a period of several weeks can use Sevin to control late-season insects without exceeding residue tolerances."

TO OPEN COMPANY

LOGAN, UTAH — Arthur L. Walton of Montpelier, Idaho, has purchased property in Cache Junction and will open the new Walton Fertilizer Co. He will carry Anchor brand treble super phosphate, 33% nitrogen fertilizer and the 21% ammonium sulphate or mixtures prepared for the individual farmer's specifications. Products are sold and spread in bulk enabling the farmer to meet specific acre requirements without waste, he said.

Merger Proposed for Minerals & Chemicals, Philipp Brothers

NEW YORK—Charles A. Specht, president of Minerals & Chemicals Corporation of America, and Siegfried Ullmann, president of Philipp Brothers, Inc. and chairman of the board of Philipp Brothers Ore Corp., have announced that their directors will recommend to their stockholders the merger of the three companies. The merged corporation will be known as Minerals & Chemicals-Philipp Brothers, Inc.

Based on the respective consolidated balance sheets at Dec. 31, 1959, the combined net worth of the merged company would be approximately $52,000,000, and pro forma working capital would be in excess of $36,000,000. Combined consolidated net earnings of the companies in 1959 were approximately $8,500,000.

Philipp Brothers, Inc. and its subsidiary, Philipp Brothers Ore Corp., are importers, exporters, processors and merchants in ferrous and nonferrous ores, metals and minerals. In addition to operations in the U.S., they carry on, through subsidiaries abroad, operations in Europe, in the Near and Far East, South America, Australia and Africa.

Minerals & Chemicals is a producer and processor of kaolin, attapulgite, activated bauxite and limestone products. Mines and plants are located in Arkansas, Florida, Georgia, Michigan, Ohio and Virginia and a research center at Menlo Park, N.J.

James Deshler, chairman of Minerals & Chemicals, will continue as chairman, and Mr. Ullmann will become vice chairman. Mr. Specht will continue as president, and Ludwig Jesselson and Leo Forchheimer, officers of the Philipp companies, will become executive vice president and senior vice president, respectively, of the merged company. Alfred G. Blake will continue as executive vice president.

Center Wins Award

SKOKIE, ILL.—International Minerals & Chemical Corp's administrative and research center in Skokie, Ill., received the American Institute of Architects "Award of Merit" for 1960 at the recent annual A.I.A. convention in San Francisco.

Sixteen awards were made from a total of 289 world-wide entries covering buildings of all kinds by American architects. Five received the First Honor Award and 11 the Award of Merit. All were for designs which "represented an outstanding contribution to the cause of good achitecture in at least one major aspect."

SALES IN OKLAHOMA

OKLAHOMA CITY, OKLA.—Fertilizer sales during the third quarter (fiscal) in Oklahoma amounted to 19,520 tons, reported Jack M. Cornelius, Jr., president, State Board of Agriculture. This compares with 26,572 tons sold during the second quarter.

DELANEY

(Continued from page 1)

ity of the Delaney amendment as it now stands." Copies of this document are not available at this time.

The panel making this report consisted of highly regarded scientists gathered from government agencies and outside sources. It was brought into the study following controversy over the pending color additive bill to amend the FDA Act further in regard to permissive tolerance levels in coloring materials for food wrappers.

This controversy reached climactic proportions late last year when FDA, acting directly on orders from Arthur Flemming, secretary of Health, Education and Welfare, imposed bans on the sale of cranberries and certain classes of poultry which, it was alleged, were in part contaminated with carcinogenic materials.

Attitude Reviewed

At that time the Flemming attitude was that he had no choice than to ban distribution and sale of the allegedly contaminated foods. He disclaimed any discretion in the matter under provisions of the Delaney amendment, known in informed circles as section 409(c) (3) of the FDA Act.

The President's panel—noting with sympathy the interest of the consumer and also problems facing the chemical and food processing industries—is said to focus attention on obscurities of the problems involved in resolving controversy over the Delaney amendment.

The panel, in a succinct summary of what it has found as a result of hearing testimony from government officials and outside sources, makes these recommendations to the President:

1. That the secretary of Health, Education and Welfare appoint a board advisory to him to assist in the evaluation of scientific evidence, on the basis of which decisions have to be made prohibiting or permitting use of certain possibly carcinogenic compounds.

The advisory board should be composed of scientists from the National Cancer Institute, the Food and Drug Administration, the U.S. Department of Agriculture, and scientists outside of government from a panel nominated by the National Academy of Sciences.

It would be the function of the board to weigh evidence and to make recommendations to the secretary of the Department of Health, Education and Welfare on the basis of available scientific data, both on applications for approval of new food additives and in all cases where the withdrawal of a prior approval or sanction is under consideration. The board would consider among other matters: (a) whether or not the tests for carcinogenicity are appropriate and reasonable; (b) whether the substance is or is not in reality carcinogenic as determined histopathologically or by other criteria; (c) whether addition of the substance to agricultural products would result in a concentration of the substance above the natural background level of such substance, and (d) what assay techniques are appropriate to determine whether a specific carcinogen is present in food.

Another Function

It would also be the function of this board to review from time to time its recommendations and to modify them in the light of new scientific knowledge. Further, the board would assume the responsibility of recommending to the secretary of Health, Education and Welfare specific research problems to be undertaken to provide necessary scientific data.

2. If existing legislation does not permit the secretary to exercise discretion consistent with the recommendations of this report, it is recommended that appropriate modifications in the law be sought.

3. Because of limited scientific information available relevant to the effects of possible carcinogenic food additives, it is recommended that:

(a) Proportionately greater emphasis be placed by government agencies on the study of representative carcinogens in a variety of animal species in an attempt to define dose-response relations. It must be recognized from the very nature of such research that definitive answers useful in extrapolation to man may not be expected for many years to come. The applicability of such research to the problems discussed in this report will be furthered by studies carried out on large groups of animals.

(b) Studies be increased on the possible carcinogenic action of substances to which numbers of individuals have been regularly exposed and that these studies be related to the incidence of cancer in the exposed individuals. Retrospective studies should also be made of patients who have received a variety of chemical compounds, in the course of treatment of disease, which are subsequently suspected of being carcinogenic.

4. Research be expanded also by the Department of Agriculture, by the state agricultural experiment stations, and by industry to discover additional safe and effective materials for the production and processing of foods.

The panel has carefully established as case for the "scientific unsoundness" of the Delaney amendment in its report to the President and leads up to the foregoing recommendations:

First, it cites a U.S. Supreme Court declaration that FDA, in interpreting the act, is required to follow the "rule of reason."

Then the panel proceeds to cite the many uncertainties in regard to determination of hazards of the use of carcinogens in foods or animal feeds.

Panel recommendation No. 2 is seen as nailing down the case against the rigid Delaney amendment and urges use of a panel of topflight scientists to advise the secretary on use approval or withdrawal of previous approvals. Prior to this specific recommendation the panel in its report says in part: "Scientific judgment as well as the rule of reason are required to decide what is a proper and adequate assay method. In applying the provisions of section 409(c) (3) of the FDA Act the enforcing agency must employ the "rule of reason" based on scientific judgment to carry out the intent of the Congress to protect the public from the possibility of increasing cancer risks through the diet. The definition of a carcinogen implicit in the language of section 409 (c) requires discretion in its interpretation because so many variables enter into a judgment as to whether a particular substance is or is not carcinogenic."

Since doubt exists in most official circles as to the area of discretion for the secretary under the act and its Delaney amendment, the President's panel says, "If existing legislation does not permit the secretary of Health, Education and Welfare to exercise discretion consistent with recommendations of this report, it is recommended that appropriate modifications in the law be sought."

It is this last phrase that clinches the conclusion that the Delaney amendment is rigid and unsound scientifically and should be modified to give administrative latitude based on sound scientific judgments.

Attainment of such legislative changes faces some difficult political considerations within Congress.

It is known that the New York Democratic congressman, James J. Delaney, author of the controversial amendment, has thus far taken an adamant stand against any modification of his amendment. He is also a high ranking member of the powerful House Rules Committee that will have to pass on any new legislation which the House Interstate and Foreign Commerce Committee may approve before it can get to the House floor for a vote. (At present, there are no indications that Mr. Delaney is disposed to alter his previous strong views, and he may be counted in opposition to any liberaling change by the House Interstate Commerce Committee.)

However, the President's panel is seen as providing the House Committee and the House itself with an escape from responsibility for any liberalizing modification of the Delaney amendment. It is believed that the unassailable character of the President's panel should carry sufficient weight to overcome fears of undecided congressmen.

Yet, there still remains a hard core of members of Congress who appeal to such elements as national women's groups, food faddists and fringe elements which have steadily opposed scientific use of inorganic chemicals in the use, protection and preservation of food.

This uncertainty regarding congressional action poses a most difficult choice for the chemical and food industries in pressing for floor action on a liberalizing change in the Delaney amendment. If such legislation can be brought through the Rules Committee to the floor, it may be urgent that the interested industry groups are sure of floor approval, since a defeat might permanently—or drastically—defer to other years any modifications in the Delaney amendment.

Olin Mathieson Reveals Record 1st Quarter Sales

NEW YORK — Olin Mathieson Chemical Corp. announced record first quarter sales and a 33⅓% increase in net nearnings for the first quarter of 1960 compared with the same period in 1959.

In the report to shareholders, Thomas S. Nichols, chairman, and Stanley de J. Osborne, president, announced that net earnings for the first three months of 1960 were $8,567,000, or 64¢ per share. This compared with $6,395,000, or 48¢ per share in the first quarter a year ago.

First quarter sales totaled $163,132,000, a 2% increase over the first quarter record set in 1959 when sales totaled $159,909,000.

Beginning June 6, 1960, Croplife will be issued every other week . . .

Mailing Schedule

Production Edition	Marketing Edition
June 6	
	June 20
July 4	
	July 18
Aug. 1	
	Aug. 15
Aug. 29	
	Sept. 12
Sept. 26	
	Oct. 10
Oct. 24	
	Nov. 7
Nov. 21	
	Dec. 5
Dec. 19	

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

Imagination Selling Fertilizers Pays Off in 'Break the Yield Barrier' Contest

IMAGINATION . . . the quality of being able to see things beyond the obvious . . . is an indispensable ingredient in setting the stage for extra sales of fertilizers and pesticides. It leads its adherents off the beaten paths into unknown and unmarked areas. It may even lead to unwanted ends, but more likely daring adventures may pay off in greater volume and success.

Such an experience has been reported by California Spray-Chemical Corp. in its "Break-the-Yield-Barrier" contest, results of which were gratifying, Calspray spokesmen say. It is possible that other firms might adapt such as an idea to their own sales efforts.

The contest was prompted first by two questions: 1. What are the limits on acre yields? 2. How high can acre yields be pushed by putting into practice a program employing technical know-how and imagination?

The original plan was to include only sugar beets, cotton, potatoes, and tomatoes, but it has now been expanded to include alfalfa, corn, peaches, pears, sorghum, barley and wheat. Original goals for production of crops were: sugar beets, 50 tons an acre; cotton, 6½ bales an acre; potatoes, 900 cwt. an acre; and tomatoes, 55 tons an acre.

A very uncomplicated set of rules governs the contest. Rule No. 1 says that the area on which yield is based must be at least one acre, and rule 2 says that growers entering the contest are to use only the company's brand of plant foods.

The company's agronomists in various districts act as captains of the teams under the supervision of Dr. Malcolm H. McVickar, chief agronomist. Cultural practices, varieties, planting rate, timing and placement of fertilizers, rate of fertilization, irrigation and other factors can be varied according to the agronomists' judgment.

Naturally, such a program calls for intensive selling to get growers to participate. They had to be sold on the idea and on the need to fertilize heavily. Any reluctance on the part of growers to add greatly to their application of plant food was offset by the company's offer to reimburse any farmer if his extra yield was insufficient to cover the extra fertilizer cost. It turned out, according to Calspray, that no such reimbursements were needed since in all cases the "Break-the-Yield Barrier" treatments were more profitable than the growers' regular fertilizer programs.

The winning district had some imposing figures to boast. Tomatoes were produced at the rate of 52.4 tons an acre; 41.83 tons sugar beets with 15.3% sugar; 630 cwt. potatoes; 4.9 bales of cotton. In the case of tomatoes, the grower applied 500 lb. 14-14-14 as a pre-plant application, set out 4,000 plants an acre and more than doubled the average yield of 25 tons an acre. Not only did the treatment produce more tomatoes to the acre, the agronomists pointed out, but the heavy fertilization program lowered the cost of each ton produced, by 43¢. The combination of more tons plus more profit per ton is a set of circumstances most growers will fully appreciate.

Getting down to actual figures, sugar beets on one Oregon farm brought their grower a particularly handsome reward for his extra efforts in fertilization. His crop was given 800 lb. 16-16-8 broadcast and disced four inches deep on March 10, prior to planting. An additional 80 lb. nitrogen an acre from aqua ammonia was applied June 20, thirty days after thinning. It was sidedressed five inches deep and four inches from the beets on the water side of the row. The crop was harvested on Oct. 23.

Deducting all production costs, the crop returned a net of $314.00 an acre. One agronomist, in commenting on this kind of yield, observed that "16 acres of these beets would put a son or daughter through a four-year college course at the State University."

All of which makes a wonderful sales story when passed on to the fertilizer buyer. In the case of the company involved, the report says that its agronomists "learned a lot about putting know-how to work." These participants were also said to have become "men with visions."

Such a combination of know-how, imagination and action applied on any firm's customers has every likelihood of success. Slightly different angles might be taken in similar sales efforts by firms in the trade, but the basic concept of breaking the yield-barrier appears to be both sound and effective.

Chemicals a Crop Necessity

PROBLEMS surrounding the use of chemical products on the farm and in the home arise out of the fact that protection of the food supply has become a complicated chemical process calling for great understanding and cooperation among many different people, John L. Harvey, deputy commissioner of the Food and Drug Administration, told a Western audience recently.

Some of his remarks seem appropriate to repeat in view of current tensions over the problem of tolerances and residues. "It goes without saying," he told the group, "that production, preparation, marketing, storage and distribution of our food supply cannot be carried out without employing the benefits of science and technology which have been made so abundantly available in the last twenty-five or thirty years.

"I want to emphasize the fact that the Food and Drug Administration and the legislation which it enforces take full cognizance of the necessity for the use of chemicals in growing crops and in food production generally. Any implications that we are engaged in an effort to prevent farmers from using needed agricultural chemicals or processors and manufacturers from using needed food additives are 100% wrong.

"We all must be aware, however, that these tremendously useful and tremendously potent pesticidal chemicals and other types of food additives have a power for harm as well as for enormous good.

"It may be said that the established public policy under which we live is to utilize these benefits of science and technology—utilize them and control their use—in such fashion that the benefits are realized and the hazards are avoided."

Quote

"It is fair to hold that the country that has the best chemists will in the long run be the most prosperous and the most powerful. It will have at the lowest cost the best food, the best manufactured materials, the fewest wastes and unutilized forms of matter, the best guns, and the strongest explosives, the most resistant armour. Its inhabitants will make the best use of their country's resources; they will be the most healthy, and the most free from disease; they will oppose the least resistance to favorable evolution; they will be the most thrifty and the least dependent on other nations. The education of its people in chemistry and the physical sciences is the most paying investment a country can make."—Peter Townsend Austen (1896).

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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop area) basis with a mailing schedule which covers consecutively, one each week, three geographic regions (South, Midwest and West) of the U.S. On the fourth week, production personnel in fertilizer manufacturing and pesticide formulating plants throughout the U.S. are covered in depth. To those not eligible for this controlled distribution, Croplife's subscription rate is $5 for one year ($6 a year outside the U.S.). Single copy price 25¢.

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July 11-13—Annual meeting, Western Society of Crop Scientists, University of Nevada, Reno, Nev.

July 13-15—Eleventh Annual Pacific Northwest Regional Fertilizer Conference, Hotel Utah, Salt Lake City, Utah.

Aug. 10—Field Day, Lockwood Farm of the Connecticut Agricultural Experiment Station, New Haven, Conn.

Nov. 29—Oklahoma Fertilizer Dealers Conference, Oklahoma Plant Food Educational Society and Oklahoma State University cooperators, Huckins Hotel, Oklahoma City, Okla.

Dec. 14—Louisiana Fertilizer Conference, Louisiana Plant Food Educational Society and Louisiana State University cooperators, Baton Rouge, La.

1961

Jan. 9-10—Texas Plant Food Conference, Texas Plant Food Educational Society and Texas A&M cooperators, College Station, Texas.

Jan. 17-18—Arkansas Plant Food Conference, Arkansas Plant Food Educational Society and University of Arkansas cooperators, Little Rock, Ark.

Meeting Memos listed above are being listed in this department this week for the first time.

June 1-2—Conference on Roadside Erosion Control, Cartersville, Ga.

June 7—Field Day, University of Maryland Agronomy-Dairy Forage Research Farm, Ellicott City, Md.

June 9—Executive Committee Meeting, Fertilizer Section, National Safety Council, College Inn Motor Lodge, Raleigh, N.C.

June 9-11—Manufacturing Chemists' Assn. 88th annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 12-15—National Plant Food Institute annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 13-16—Western Society of Soil Science meeting, University of Oregon, Eugene, Oregon.

June 21-22—Eighteenth Annual Convention, Association of Southern Feed & Fertilizer Control Officials, Riverside Hotel, Gatlinburg, Tenn. For further information, write Maurice B. Rowe, secretary-treasurer, Department of Agriculture, 1119 State Office Building, Richmond 19, Va.

June 25—Del-Mar-Va Peninsula Fertilizer Assn., Annual Convention, George Washington Hotel, Ocean City, Md.

June 27-29 — Northwest Section, American Society of Range Management summer meeting, John Day, Oregon.

June 27-29—Pacific Branch, Entomological Society of America, Davenport Hotel, Spokane, Wash.

July 11-13—North Central Agronomy Society, Summer meeting, University of Minnesota Farm Campus, St. Paul, Minn.

July 13-15—Eleventh Annual Fertilizer Conference of the Pacific Northwest, Hotel Utah, Salt Lake City; B. R. Bertramson, State College of Washington, Pullman, Wash., chairman.

July 27-29—Great Plains Agricultural Council, 1960 meeting, Laramie, Wyo.

July 27-30—Southwest Fertilizer Conference and Grade Hearing, Galvez Hotel, Galveston, Texas.

Aug. 2-3 — Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 10-11—Northeast Regional Fertilizer Safety School, Park Sheraton Hotel, New York City.

Aug. 15-23 — Seventh International Soil Science Congress, University of Wisconsin, Madison, Wis., Prof. Emil Truog, Congress Manager, Soils Building, College of Agriculture, Madison 6, Wis.

Aug. 16-17—Midwest Regional Fertilizer Safety School, National Safety Council Headquarters, Chicago.

Aug. 21-25 — Canadian Fertilizers Assn., annual convention, Manoir Richelieu Hotel, Murray Bay, Quebec, Canada. H. H. Skelton, P.O. Box 147, Hochelaga Station, Montreal, Que., Canada, general chairman.

Aug. 25-27—Southeast Regional Fertilizer Safety School, Wilmington, N.C.

Aug. 25-27—Mississippi Soil Fertility and Plant Food Council, 1960 meeting, Buena Vista Hotel, Biloxi, Miss.

Sept. 24-26 — Western Agricultural Chemicals Assn., 31st annual meeting, Palm Springs Riviera Hotel, Palm Springs, Cal.

Sept. 27-29—Annual meeting of National Agricultural Chemicals Assn. for 1960, Hotel del Coronado, Coronado, Cal.

Sept. 29-30—Northeast Fertilizer Conference, Hotel Hershey, Hershey, Pa.

Oct. 5-6—Southeast Fertilizer Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Oct. 10-11 — Second Annual 4-State Aerial Applicators Conference, Hotel Chinook, Yakima, Wash., Norkem Corp. is sponsor.

Oct. 17-21—48th annual National Safety Congress, Fertilizer Section, LaSalle Hotel, Chicago.

Oct. 31-Nov. 3—International Crop Improvement Assn. meeting, Denver, Colo.

Nov. 2-4—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C.

Nov. 3-4—Annual fall convention, Pacific Northwest Plant Food Assn., Boise, Idaho.

Nov. 9-11—National Fertilizer Solutions Assn., 1960 Convention, Memphis, Tenn.

Nov. 13-15—California Fertilizer Assn., 37th annual meeting, del Coronado Hotel, Coronado, Cal.

Jan. 11-13 — Agricultural Ammonia Institute, 10th annual convention, Memphis, Tenn.

CALENDAR FOR 1960-61

MAY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
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29	30	31				

JUNE

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JULY

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AUGUST

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SEPTEMBER

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OCTOBER

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NOVEMBER

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DECEMBER

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JANUARY

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FEBRUARY

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MARCH

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APRIL

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Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $11 per column inch.

All Want Ads cash with order.

HELP WANTED

INDEX OF ADVERTISERS

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To help farmers throughout the Cotton Belt understand the advantages of a planned, season long insect control program based on toxaphene, educational advertisements such as these are currently appearing in the leading farm publications.

Reaching more than two million readers monthly, they help the farmer get the most from his insecticide dollar, increase confidence in insecticides and result in improved sales for dealers.

Agricultural Chemicals Division
Naval Stores Department
HERCULES POWDER COMPANY
INCORPORATED
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